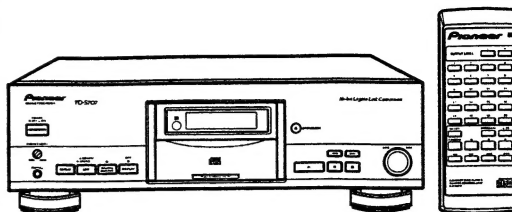


# Service Manual

**Pioneer**



ORDER NO.  
RRV1981

COMPACT DISC PLAYER

# PD-S707

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	PD-S707		
MY	○	AC220-230V	_____
MV	○	AC220-230V	_____
SD	○	AC110V/120-127V/220-230V/240V	With the voltage selector
HPW	○	AC230- 240V	_____

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6. ADJUSTMENT .....	30		

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T-ZZR JULY 1998

# 1. SAFETY INFORMATION

— IMPORTANT —

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.  
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

— LASER DIODE CHARACTERISTICS —

MAXIMUM OUTPUT POWER: 5 mw  
WAVELENGTH: 780 – 785 nm

## LABEL CHECK

MY type

VARO!

Avettaessa ja suojausohjeita ohitettaessa olet alttiina näkymättömälle laser säteilylle. Älä katso silmiesi.

VARNING!

Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Beträkta ej strålen.

VRW1297 A

MV and HPW types

**CAUTION**

**INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM**

PRW1018

MY type

ADVANCE!

USYNLIG LASERSTRÅLNING VED ÅBNING NÅR SIKKERHEDS-APPARATEN ER UD AF FUNKTION. UNDGA UDSÆTTELSE FOR STRÅLING.

VORSICHT!

UNSICHTBARE LASERSTRÄHLUNG TRITZ AUS, WENN SICHERHEIT (ODER KLASSE) GEÖFFNET IST! NICHT DEM STRAHLE AUSSETZEN!

VRW1034

REAR

### Additional Laser Caution

- 1. Laser Interlock Mechanism**

The position of the switch (S601) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not on CLMP terminal side (CLMP signal is OFF or high level.). Thus, the interlock will no longer function if the switch (S601) is deliberately set to CLMP terminal side (low level).

The interlock also does not function in the test mode\*.

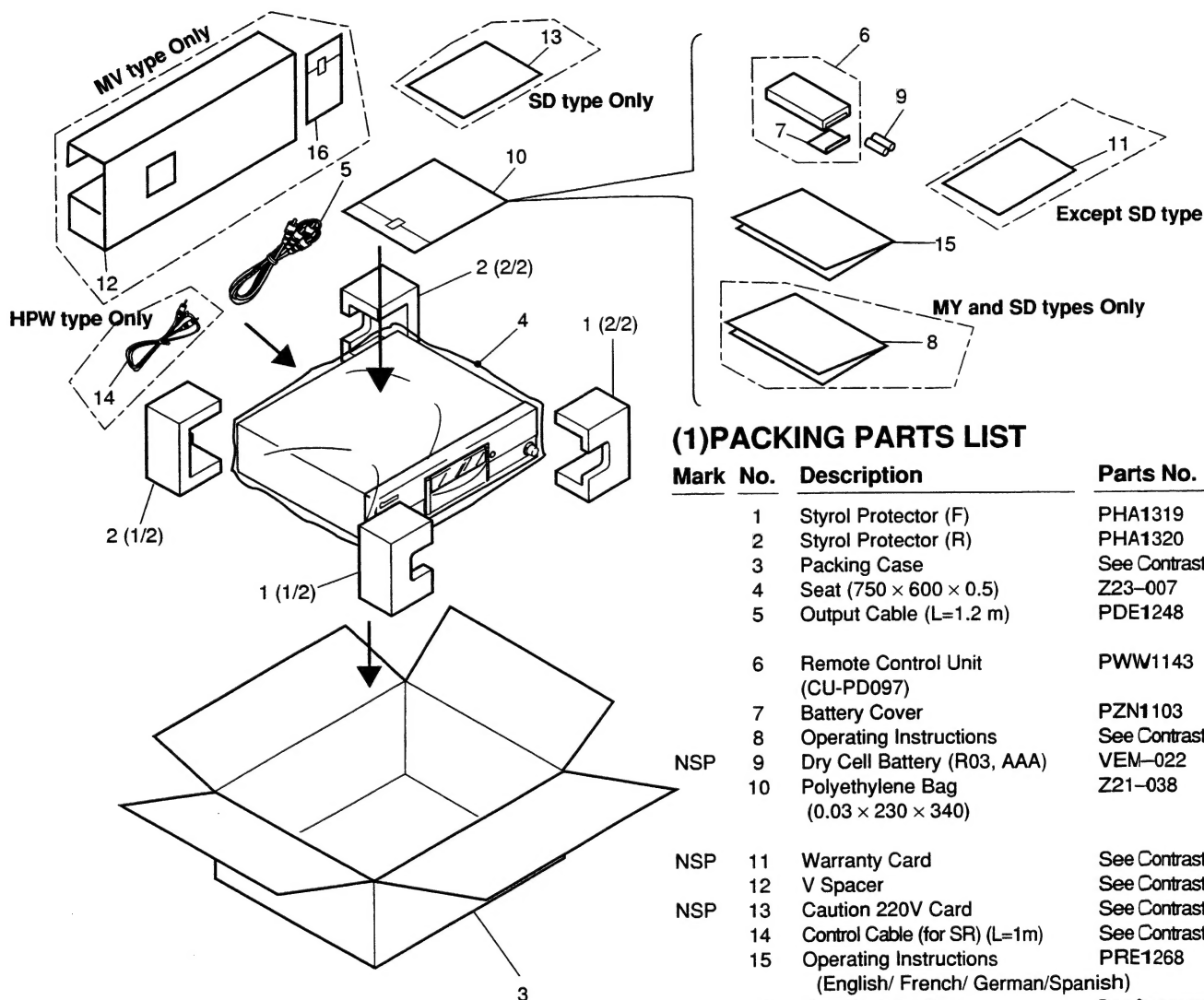
Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC151) on the MAIN BOARD ASSY is connected to GND, or pin 22 of IC301(LDON) is connected to low level (ON), or else the terminals of Q151 are shorted to each other (fault condition).
- 2. When the cover is opened with the servo mechanism block removed and turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.**

\* Refer to page 31 .

## 2. EXPLODED VIEWS AND PARTS LIST

- NOTES :
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
  - The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - Screw adjacent to  $\nabla$  mark on the product are used for disassembly.

### 2.1 PACKING



#### (1)PACKING PARTS LIST

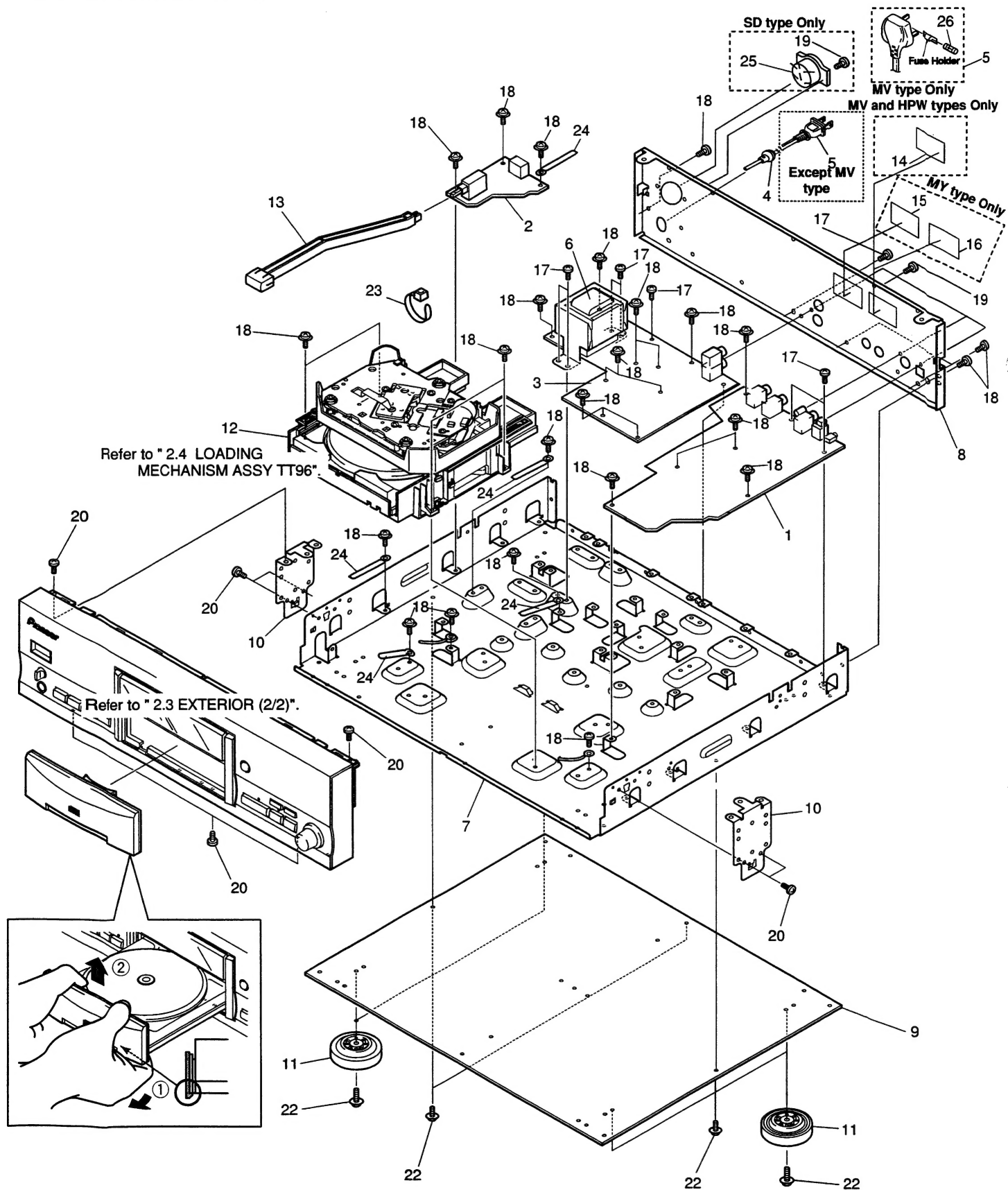
Mark	No.	Description	Parts No.
	1	Styrol Protector (F)	PHA1319
	2	Styrol Protector (R)	PHA1320
	3	Packing Case	See Contrast table(2)
	4	Seat (750 × 600 × 0.5)	Z23-007
	5	Output Cable (L=1.2 m)	PDE1248
	6	Remote Control Unit (CU-PD097)	PWW1143
	7	Battery Cover	PZN1103
	8	Operating Instructions	See Contrast table(2)
	9	Dry Cell Battery (R03, AAA)	VEM-022
	10	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
NSP	11	Warranty Card	See Contrast table(2)
	12	V Spacer	See Contrast table(2)
NSP	13	Caution 220V Card	See Contrast table(2)
	14	Control Cable (for SR) (L=1m)	See Contrast table(2)
	15	Operating Instructions (English/ French/ German/Spanish)	PRE1268
	16	Polyethylene Bag	See Contrast table(2)

#### (2) CONTRAST TABLE

PD-S707/MY, MV, SD and HPW are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			MY type	MV type	SD type	HPW type	
NSP	3	Packing Case S707	PHG2321	PHG2328	PHG2327	PHG2327	
	8	Operating Instructions (Italian/Dutch/ Swedish/ Portuguese)	PRD1032	Not used	Not used	Not used	
	8	Operating Instructions (Chinese)	Not used	Not used	PRD1030	Not used	
	11	Warranty Card	ARY7022	ARY7008	Not used	ARY7022	
NSP	12	V Spacer	Not used	PHC1089	Not used	Not used	
	13	Caution 220V Card	Not used	Not used	ARR7003	Not used	
	14	Control Cable	Not used	Not used	Not used	PDE1247	
	16	Polyethylene Bag	Not used	Z21- 013	Not used	Not used	

## 2.2 EXTERIOR (1/2)





**(1) EXTERIOR (1/2) PARTS LIST**

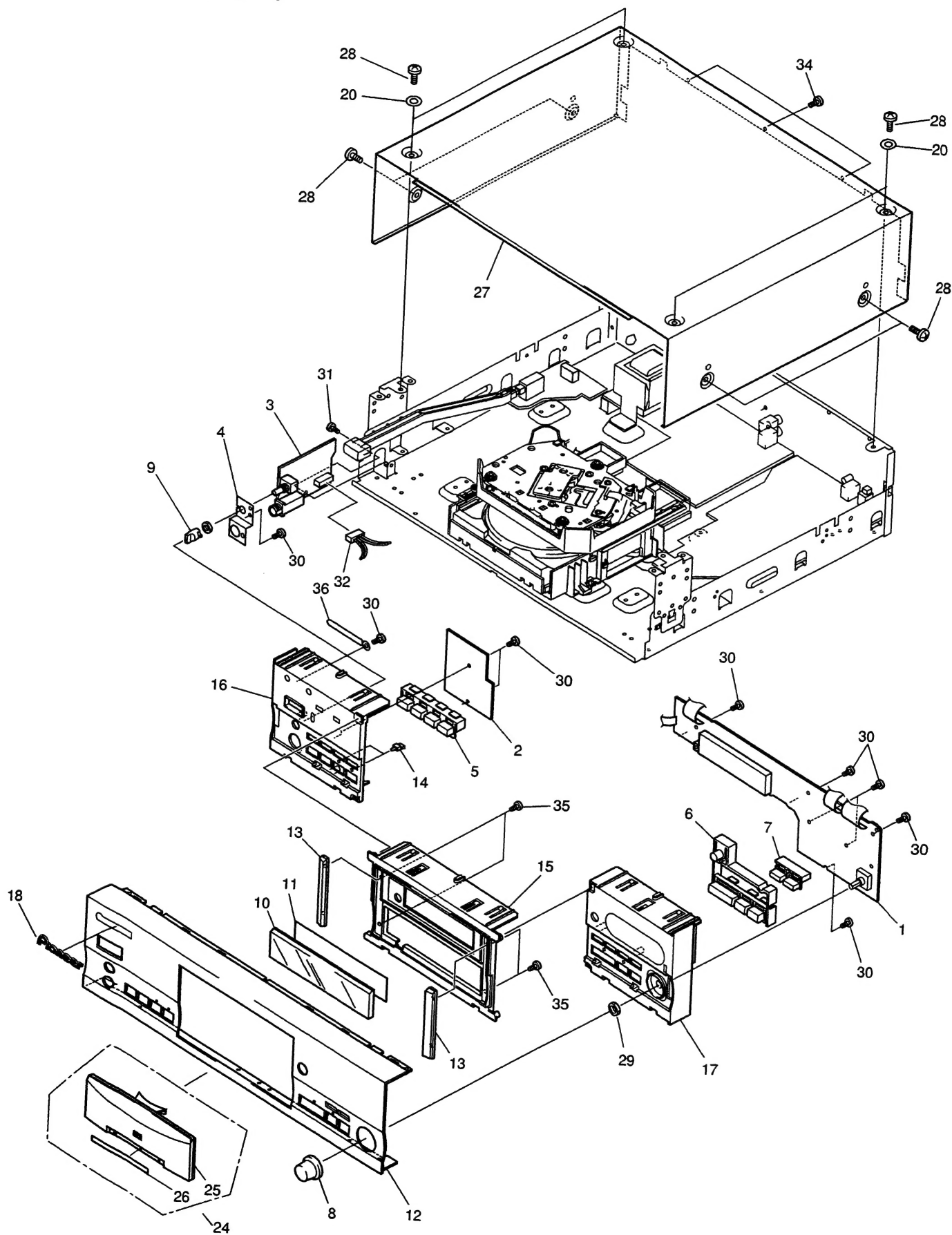
Mark	No.	Description	Parts No.
	1	MAIN BOARD ASSY	See Contrast table(2)
NSP	2	PRIMARY SWITCH ASSY	See Contrast table(2)
	3	POWER BOARD ASSY	See Contrast table(2)
	4	Strain Relief	CM-22B
⚠	5	AC Power Cord	See Contrast table(2)
⚠	6	Power Transformer	See Contrast table(2)
NSP	7	Under Base	PNA2446
	8	Rear Base S707	See Contrast table(2)
NSP	9	Bottom Plate	PNA2376
NSP	10	Side Angle	PNB1583
	11	Insulator Assy	VXA2356
NSP	12	Loading Mechanism Assy TT96	PXA1611
	13	Power Knob	PAC1897
	14	Caution Label	See Contrast table(2)
	15	Caution Label	See Contrast table(2)
NSP	16	Caution Label (HE)	See Contrast table(2)
	17	Screw (3×6)	ABA1207
	18	Screw	ABA1011
	19	Screw	BBZ30P080FZK
	20	Screw	BBT30P080FCC
	21	.....	
	22	Screw	IBZ30P100FCC
	23	Binder	ZCA-SKB90BK
	24	Cord Clamper	RNH-184
⚠	25	Voltage Selector	See Contrast table(2)
⚠	26	Fuse (T5A)	See Contrast table(2)

**(2) CONTRAST TABLE**

PD-S707/MY, MV, SD and HPW are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			MY type	MV type	SD type	HPW type	
NSP	1	MAIN BOARD ASSY	PWZ3793	PWZ3794	PWZ3795	PWZ3796	
	2	PRIMARY SWITCH ASSY	PWZ3869	PWZ3869	PWZ3870	PWZ3869	
	3	POWER BOARD ASSY	PWZ3800	PWZ3801	PWZ3802	PWZ3803	
	5	AC Power Cord	PDG1003	PDG1055	PDG1013	ADG1123	
⚠	6	Power Transformer	PTT1301	PTT1301	PTT1302	PTT1301	
	8	Rear Base S707	PNA2433	PNA2447	PNA2448	PNA2449	
	14	Caution Label	Not used	PRW1018	Not used	PRW1018	
	15	Caution Label	VRW1094	Not used	Not used	Not used	
NSP	16	Caution Label (HE)	VRW1297	Not used	Not used	Not used	
⚠	25	Voltage Selector	Not used	Not used	AKX7001	Not used	
⚠	26	Fuse (T5A)(For AC Power Cord)	Not used	PEK1003	Not used	Not used	

## 2.3 EXTERIOR (2/2)



# (1) EXTERIOR (2/2) PARTS LIST

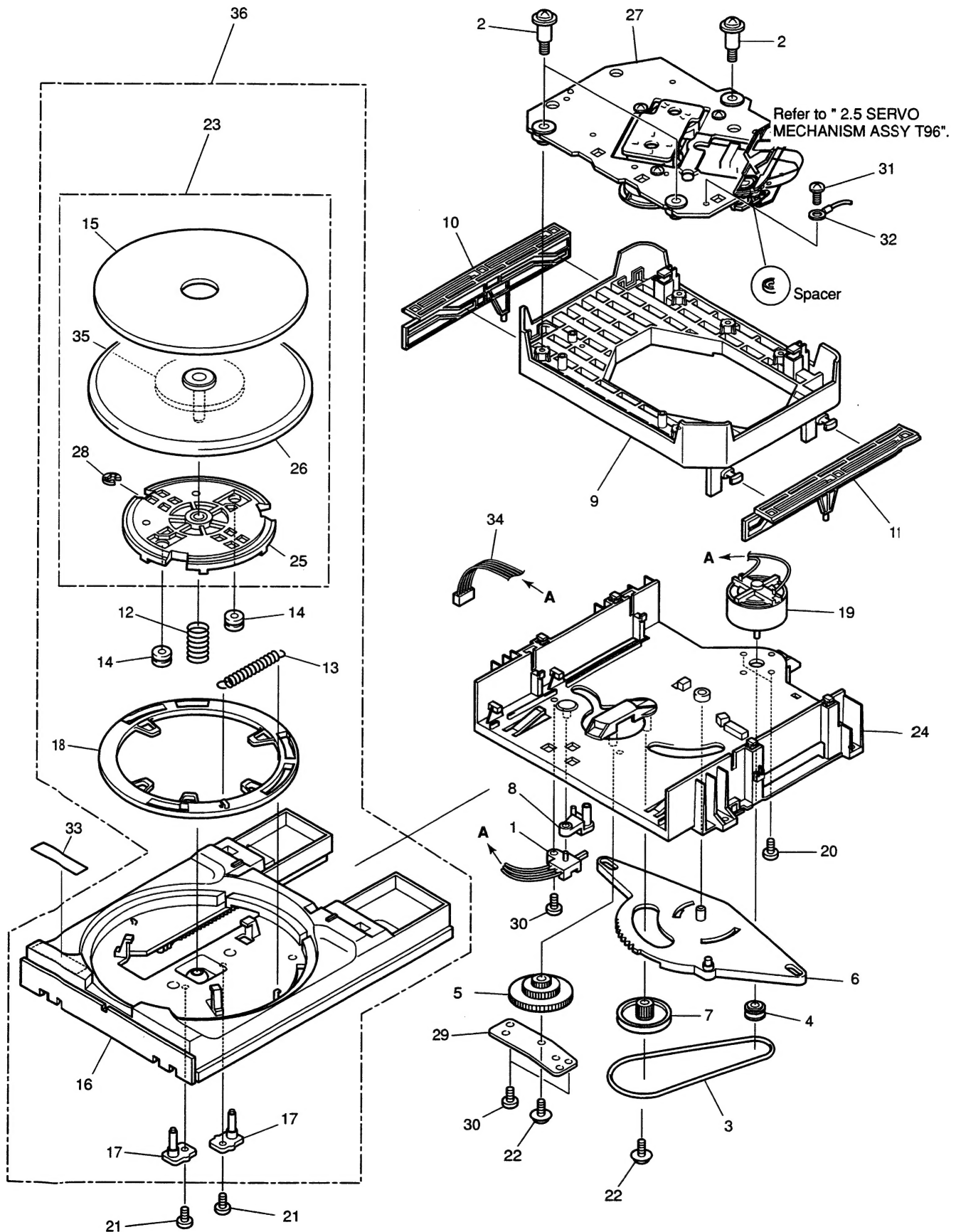
Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	DISPLAY BOARD ASSY	See Contrast table(2)		31	Screw	IBZ30P060FMC
NSP	2	FUNCTION BOARD ASSY	PWZ3812		32	Connector Assy 4P	PDE1294
NSP	3	PHONE BOARD ASSY	See Contrast table(2)		33	.....	
	4	H.P. Angle	PNB1582		34	Screw	BBZ30P080FZK
	5	Mode Button S707	PAC1895		35	Screw	BPZ20P060FMC
	6	Play Button	RAC2204		36	Cord Clamper	RNH-184
	7	Manual Button	PAC1894				
	8	Track Knob S707	PAC1898				
	9	Headphone Knob	PAC1707				
	10	Display Window	PAM1766				
	11	FL Sheet	See Contrast table(2)				
	12	Front Panel S707	PAN1370				
	13	Side Sash	PAP1004				
	14	LED Lens	PNW2745				
	15	Panel CDB	PNW2810				
	16	Panel LB	PNW2811				
	17	Panel RB	PNW2812				
	18	Name Plate	PAN1376				
	19	.....					
	20	Washer	ABE1009				
	21	.....					
	22	.....					
	23	.....					
	24	Tray Plate Assy S707	PEA1348				
NSP	25	Tray Panel B	PNW2814				
NSP	26	Tray Badge	PAN1358				
	27	Bonnet Case	PYY1257				
	28	Screw	BBZ40P080FZK				
	29	Nut	NK90FUC				
	30	Screw	PPZ30P080FMC				

## (2) CONTRAST TABLE

PD-S707/MY, MV, SD and HPW are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			MY type	MV type	SD type	HPW type	
NSP	1	DISPLAY BOARD ASSY	PWZ3807	PWZ3807	PWZ3807	PWZ3808	
	3	PHONE BOARD ASSY	PWZ3815	PWZ3815	PWZ3816	PWZ3816	
	11	FL Sheet S707	PAM1737	PAM1737	PAM1763	PAM1763	

## 2.4 LOADING MECHANISM ASSY TT96

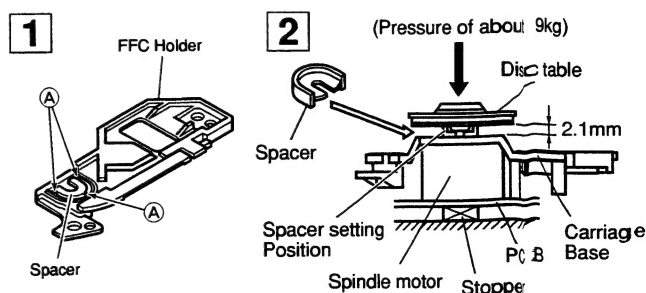


## LOADING MECHANISM ASSY TT96 PARTS LIST

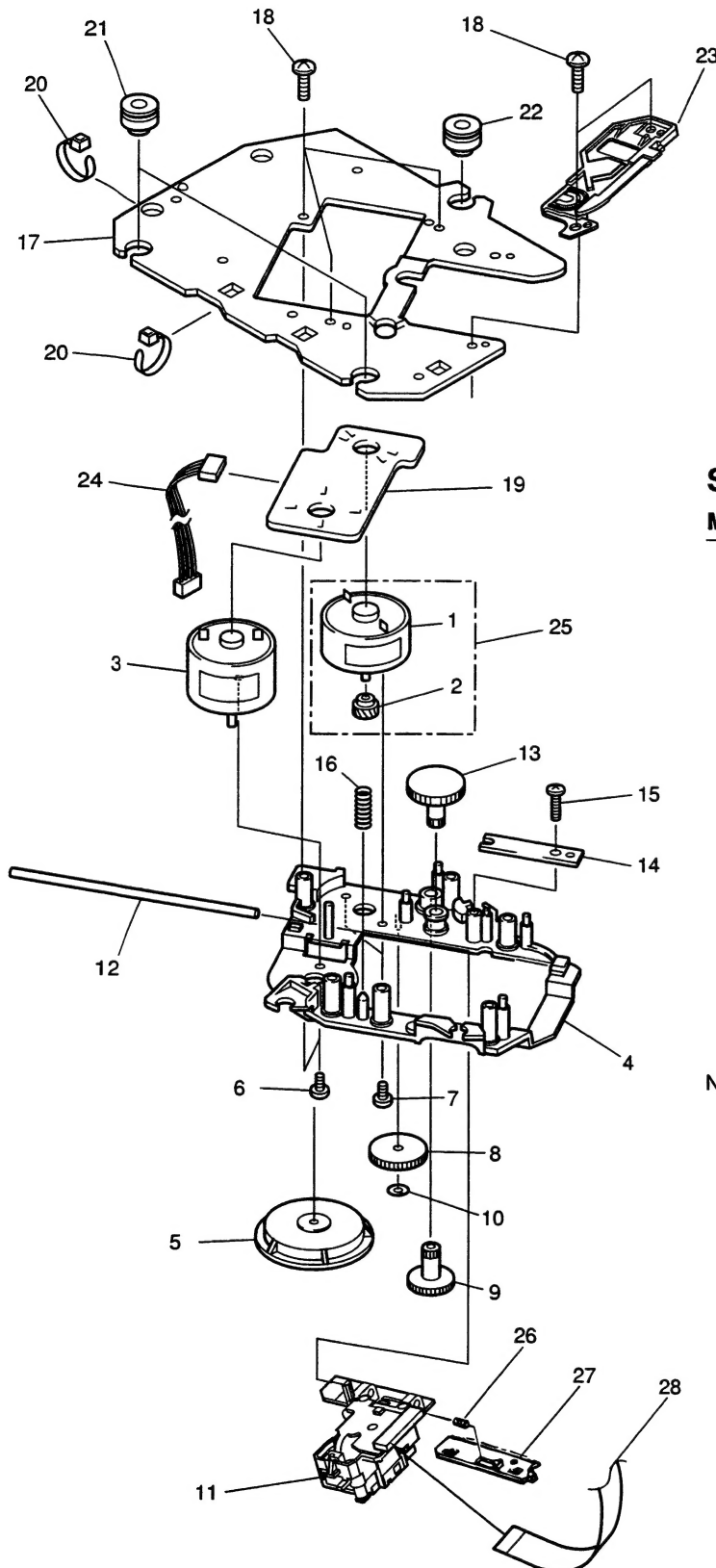
Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Lever Switch (S601)	DSK1003		26	Turn Table	PNR1035
	2	Float Screw	PBA1027	NSP	27	Servo Mechanism Assy T96	PXA1606
	3	Rubber Belt	PEB1186		28	E Ring	YE20FUC
	4	Motor Pulley	PNW1634		29	Shaft Holder	PNB1382
	5	Drive Gear	PNW1996		30	Screw	BPZ26P060FMC
	6	Synchronized Lever	PNW2168		31	Screw	BBZ26P060FMC
	7	Gear Pulley	PNW1998	NSP	32	Earth Lead	DE010VF0
	8	SW Head	PNW1999		33	Caution Label	PRW1244
	9	Float Base	PNW2767		34	Connector Assy 5P	PDE1243
	10	Left Cam	PNW2001	NSP	35	Table Base	PXA1382
	11	Right Cam	PNW2002	NSP	36	Tray Assy TT	PXA1397
	12	Float Spring	PBH1120				
	13	Lock Spring	PBH1121				
	14	Float Rubber	PEB1014				
	15	Table Rubber Sheet	PEB1181				
	16	Tray	PNW2760				
	17	Table Guide	PNW2004				
	18	Lock Plate	PNW2005				
	19	D.C. Motor (0.75W, LOADING)	PXM1010				
	20	Screw	BMZ26P040FMC				
	21	Screw	IPZ26P060FCU				
	22	Screw	IPZ20P080FMC				
	23	Turn Table Assy	PEA1165				
	24	Loading Base	PNW2761				
	25	Table Shaft Holder Assy	PXA1383				

## ● How to Install the Disc Table

- 1 Use nipper or other tool to cut the three sections marked (A) in figure 1. Then remove the spacer
- 2 While supporting the spindle motor shaft with the stopper, put spacer on top of the carriage base, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



## 2.5 SERVO MECHANISM ASSY T96



### SERVO MECHANISM PARTS LIST

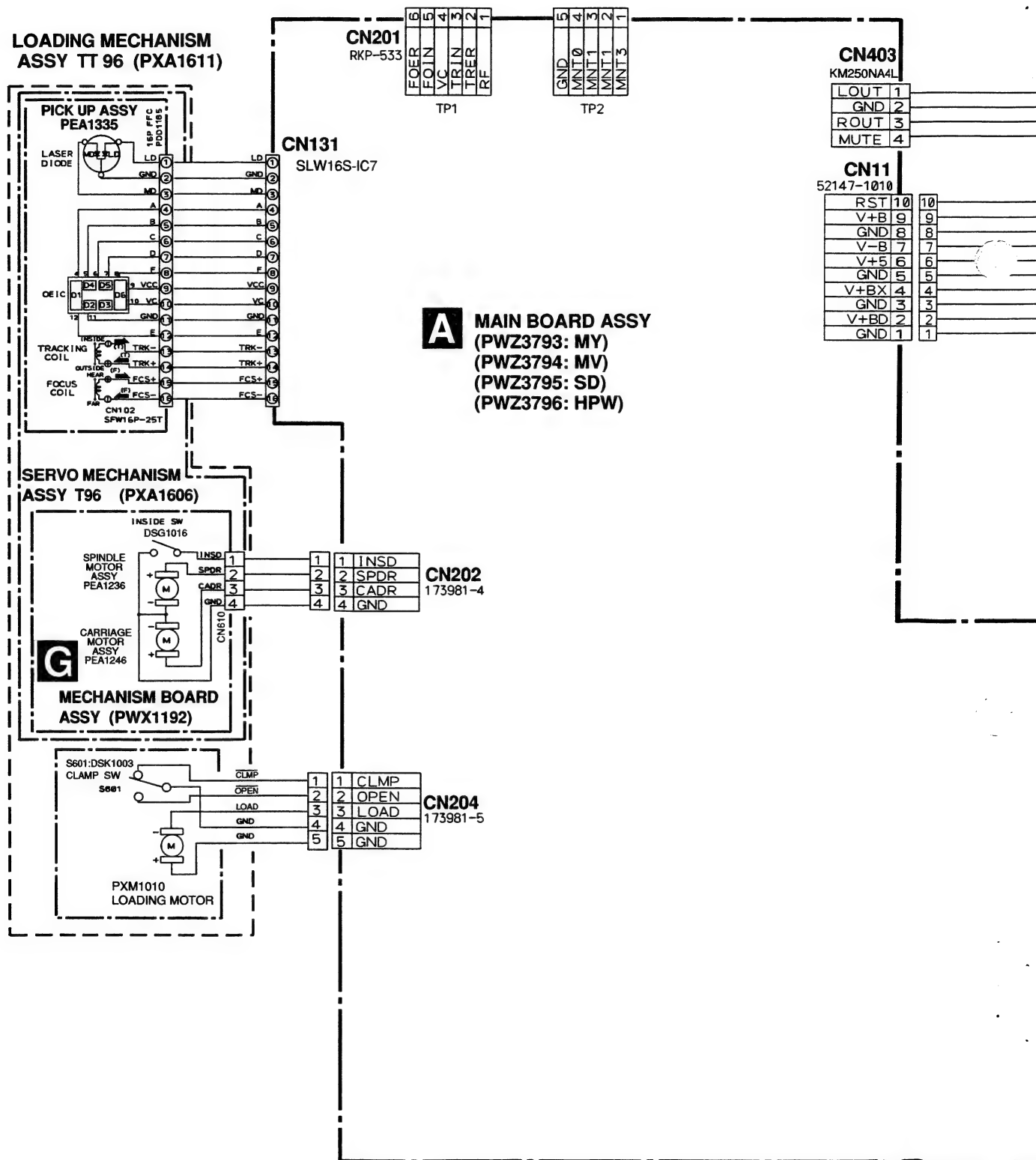
Mark	No.	Description	Parts No.
	1	Carriage D.C. Motor (0.3W)	PXM1027
	2	Pinion Gear	PNW2055
	3	Spindle Motor Assy (SPINDLE, with Oil)	PEA1236
	4	Carriage Base	PNW2699
	5	Disc Table	PNW1067
	6	Screw	JFZ20P030FNI
	7	Screw	JFZ17P025FZK
	8	Gear 3	PNW2054
	9	Gear 2	PNW2053
	10	Washer	WT12D032D025
	11	Pickup Assy	PEA1335
	12	Guide Bar	PLA1094
	13	Gear 1	PNW2052
	14	Gear Stopper	PNB1303
	15	Screw	BPZ20P060FMC
NSP	16	Earth Spring	PBH1132
	17	Mechanism Base T.T.96	PNB1592
	18	Screw	BPZ26P100FMC
	19	Mechanism Board Assy	PWX1192
	20	Binder	PEC-107
	21	Float Rubber	PEB1031
	22	Float Rubber	PEB1170
	23	FFC Holder	PNW2734
	24	Connector Assy 4P	PDE1238
	25	Carriage Motor Assy (CARRIAGE)	PEA1246
	26	Rack Spring	PBH1128
	27	Rack Holder	PNW2056
	28	F.F.C.(16P)	PDD1185



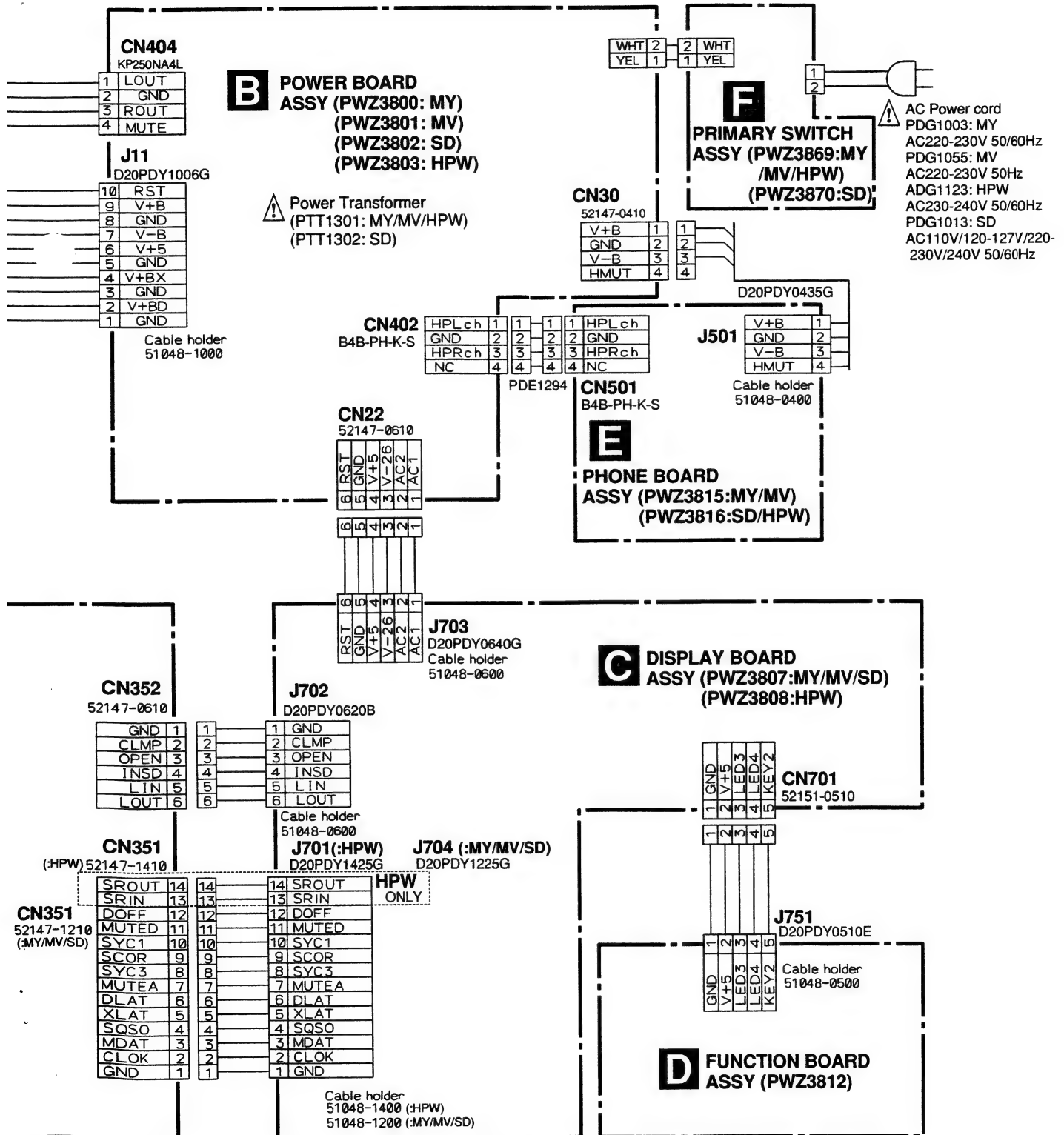
## 3. SCHEMATIC DIAGRAM

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

### 3.1 OVERALL SCHEMATIC DIAGRAM



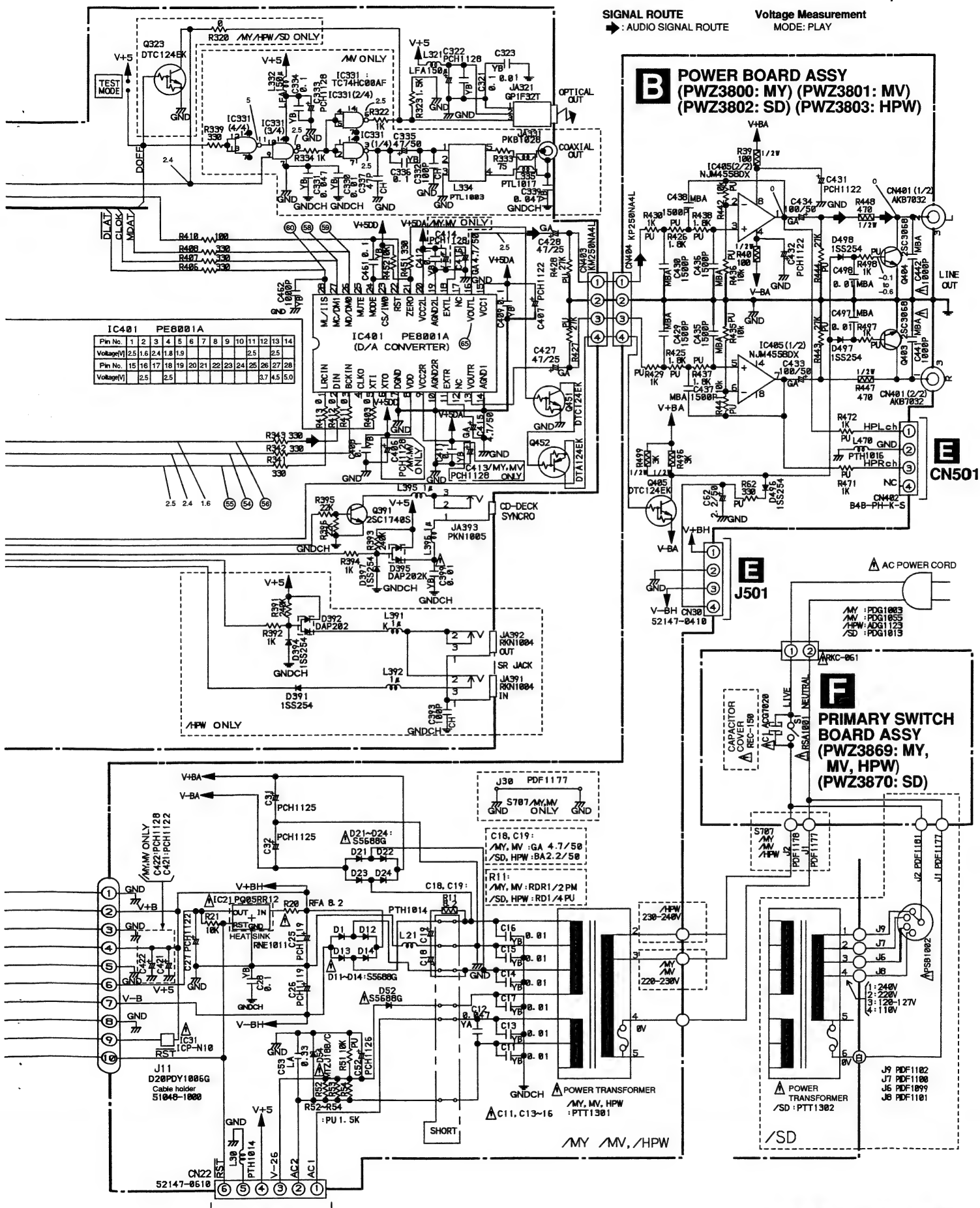




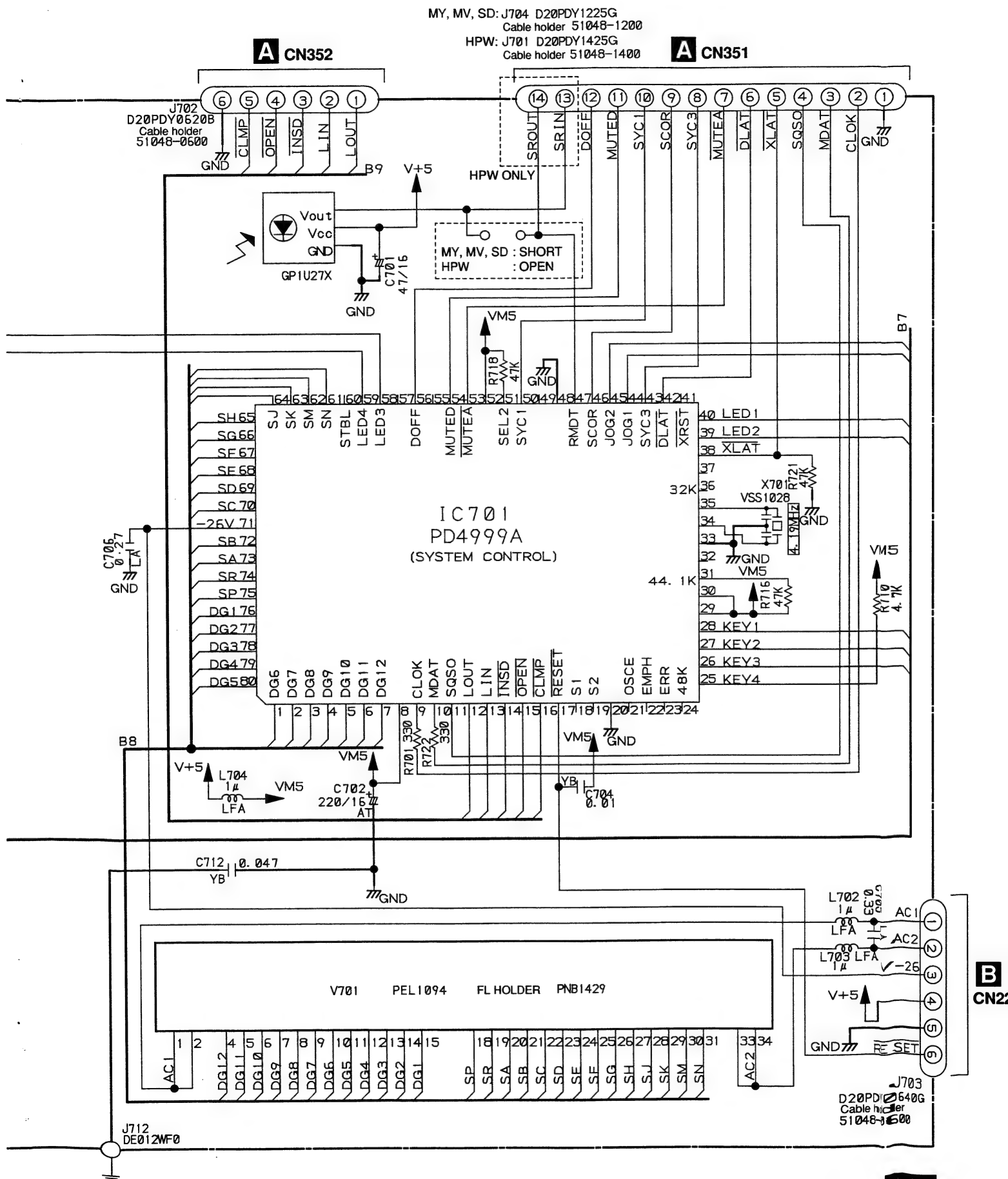


### Voltage Measurement

MODE: PLAY

**C** J703**A B F**





## Waveforms

Note: The encircled numbers denote measuring point in the schematic diagram.

\*1 50T-JUMP: After switching to the pause mode, press the manual search key.

\*2 FOCUS-IN: Press the play key without loading a disc.





<p>② TP1- Pin 1 : PLAY MODE (RF) H : 500nsec/div</p>	<p>⑤ IC202- Pin 3 : PLAY MODE (FODR) H : 1msec/div</p>	<p>⑧ IC202- Pin 9 : TRACK SEARCH MODE (CADR) H : 200msec/div</p>	<p>③③ IC301- Pin 3 : PLAY MODE (MDP) H : 2μsec/div</p>	<p>⑤⑧ IC401- Pin 27 : PLAY MODE (1 kHz) (CLOK) H : 0.2 msec/div</p>
<p>② TP1- Pin 1 : TRACK SEARCH MODE (RF) H : 200 μsec/div</p>	<p>⑥ IC202- Pin 4 : PLAY MODE (TRDR) H : 1msec/div</p>	<p>⑨ IC301- Pin 17 : PLAY MODE ASY0 (EFM) H : 500nsec/div</p>	<p>⑤③ IC301- Pin 9 : PLAY MODE (PCO) H : 10μsec/div</p>	<p>⑤⑨ IC401- Pin 26 : PLAY MODE (1 kHz) (MDAT) H : 0.2 msec/div</p>
<p>③ TP1- Pin 6 : PLAY MODE (FOER) H : 10msec/div</p>	<p>⑥ IC202- Pin 4 : 50T-JUMP(*1) MODE (TRDR) H : 1msec/div</p>	<p>①⑥ IC301- Pin 22 : PLAY MODE (1kHz) (BCLK) H : 500nsec/div</p>	<p>⑤④ IC341- Pin 5 : PLAY MODE (1 kHz) (BCKO) H : 0.2 μsec/div</p>	<p>⑥① IC401- Pin 28 : PLAY MODE (1 kHz) (DLAT) H : 0.2 μsec/div</p>
<p>④ TP1- Pin 2 : PLAY MODE (TRER) H : 10msec/div</p>	<p>⑦ IC201- Pin 1 : PLAY MODE (SPDR) H : 50msec/div</p>	<p>①⑧ IC301- Pin 20 : PLAY MODE (1kHz) (LRCK) H : 10μsec/div</p>	<p>⑤⑤ IC341- Pin 4 : PLAY MODE (1 kHz) (LRCKO) H : 10 μsec/div</p>	<p>⑥⑤ IC401- Pin 16 : PLAY MODE (1 kHz) H : 0.2 msec/div</p>
<p>④ TP1- Pin 2 : 50T- JUMP(*1)MODE (TRER) H : 1msec/div</p>	<p>⑦ IC201- Pin 1 : TRACK SEARCH MODE (SPDR) H : 50msec/div</p>	<p>①⑨ IC301- Pin 21 : PLAY MODE (1kHz) (DATA) H : 500nsec/div</p>	<p>⑤⑥ IC341- Pin 6 : PLAY MODE (1 kHz) (DATAO) H : 0.2 μsec/div</p>	
<p>⑤ IC202- Pin 3 : FOCUS-IN(*2) MODE (FODR) H : 200msec/div</p>	<p>⑧ IC202- Pin 9 : PLAY MODE (CADR) H : 2sec/div</p>	<p>②③ TRACK SEARCH MODE Upper:TP1-Pin1 (RF) Lower:IC151-Pin 23 (C.OUT) H : 200μsec/div</p>	<p>⑤⑦ IC342- Pin 6 : PLAY MODE (1 kHz) (XTI) H : 50 nsec/div</p>	









## 4. PCB CONNECTION DIAGRAM

**NOTE FOR PCB DIAGRAMS:**

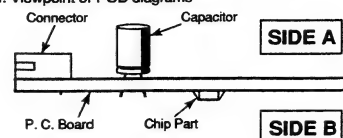
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
 <p>B C E</p>		Transistor
 <p>B C E</p>		Transistor with resistor

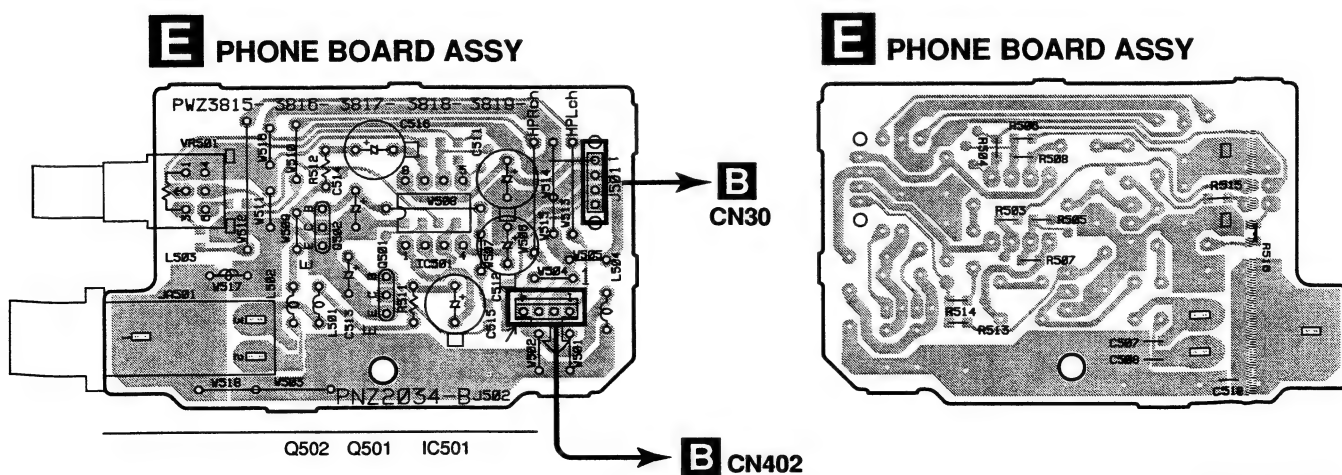
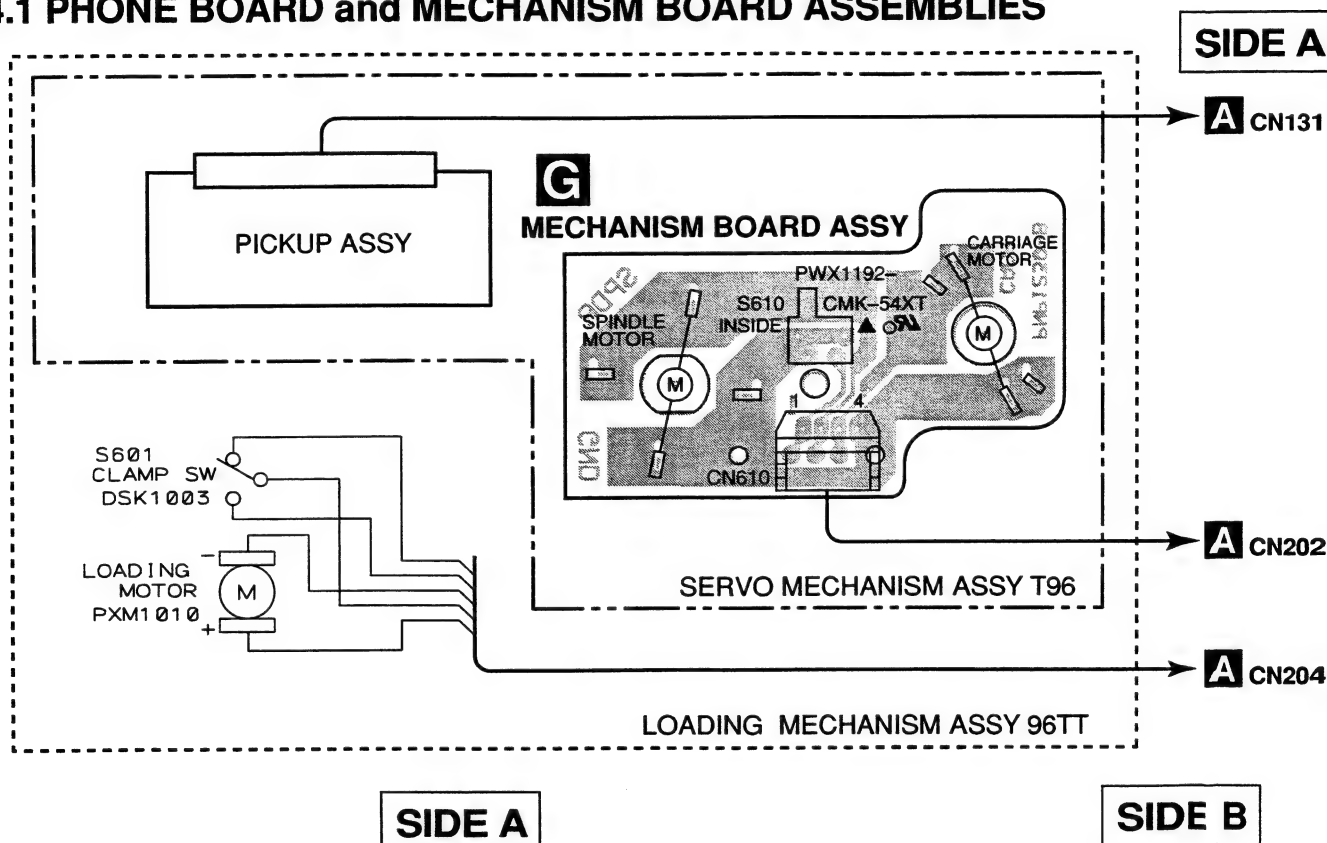
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
 D G S	 D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.  
For further information for respective destinations, be sure to check with the schematic diagram.

- #### 4. Viewpoint of PCB diagrams



#### 4.1 PHONE BOARD and MECHANISM BOARD ASSEMBLIES



(PNP 449-B)

PD-S707

## 4.2 MAIN BOARD ASSY

**SIDE A**

### **A** MAIN BOARD ASSY

**B** CN404

**B** J11

To Pickup Assy

**C** J701(:HPW)  
J704(:MY/MV/SD)

(PNP1449-B)

**C** J702

To Loading Motor and S601

**G** CN610

Q391

IC341

IC421

Q311

Q312

IC232

VR152

IC202

VR151

VR155

VR154

VR156

VR153

Q151

IC201



**A** MAIN BOARD ASSY

Q323  
IC331

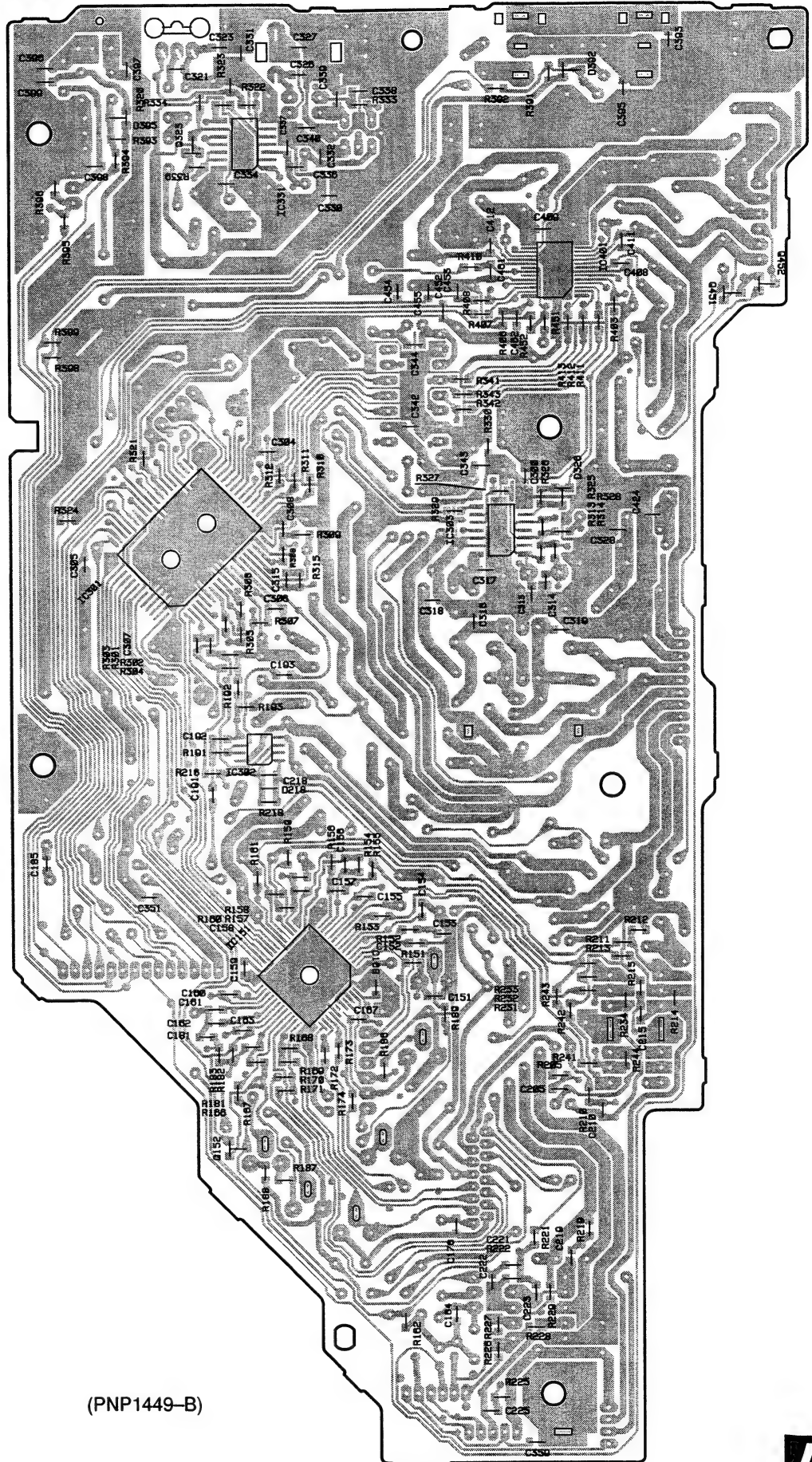
IC401  
Q452  
Q451

IC303  
IC301

IC302

IC151

Q152



(PNP1449-B)

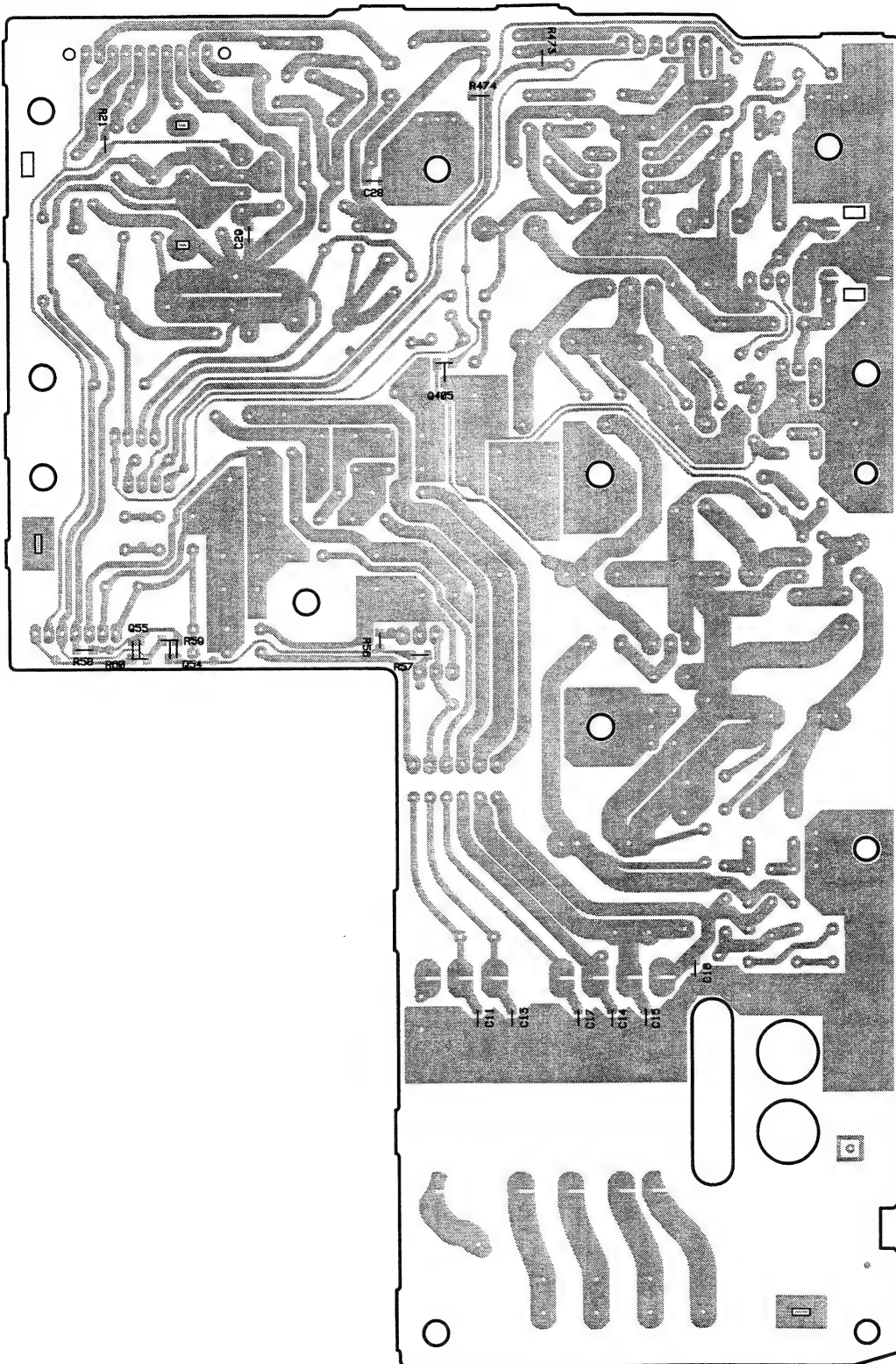
**A CN403**

**A** CN11



(PNP1449-B)

**B** POWER BOARD ASSY



Q405

Q54  
Q55

(PNP1449-B)



# 4.4 DISPLAY BOARD and FUNCTION BOARD ASSEMBLIES

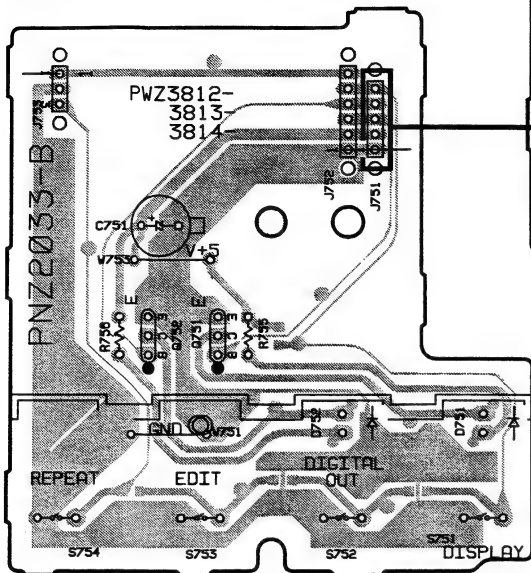
**SIDE A**

A

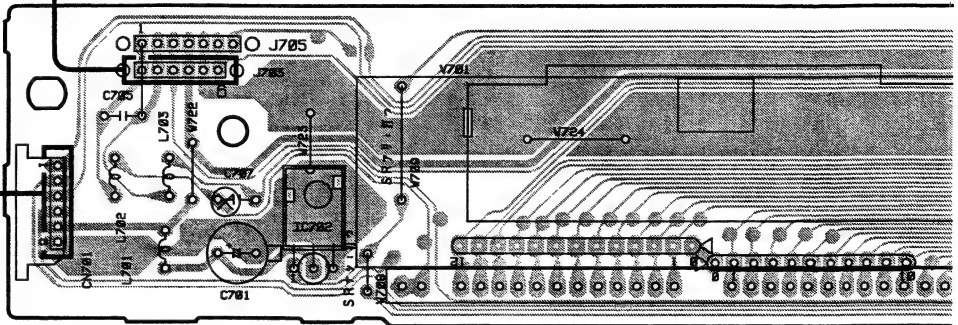
**B** CN22

**C** DISPLAY BOARD ASSY

**D** FUNCTION BOARD ASSY



Q752 Q751

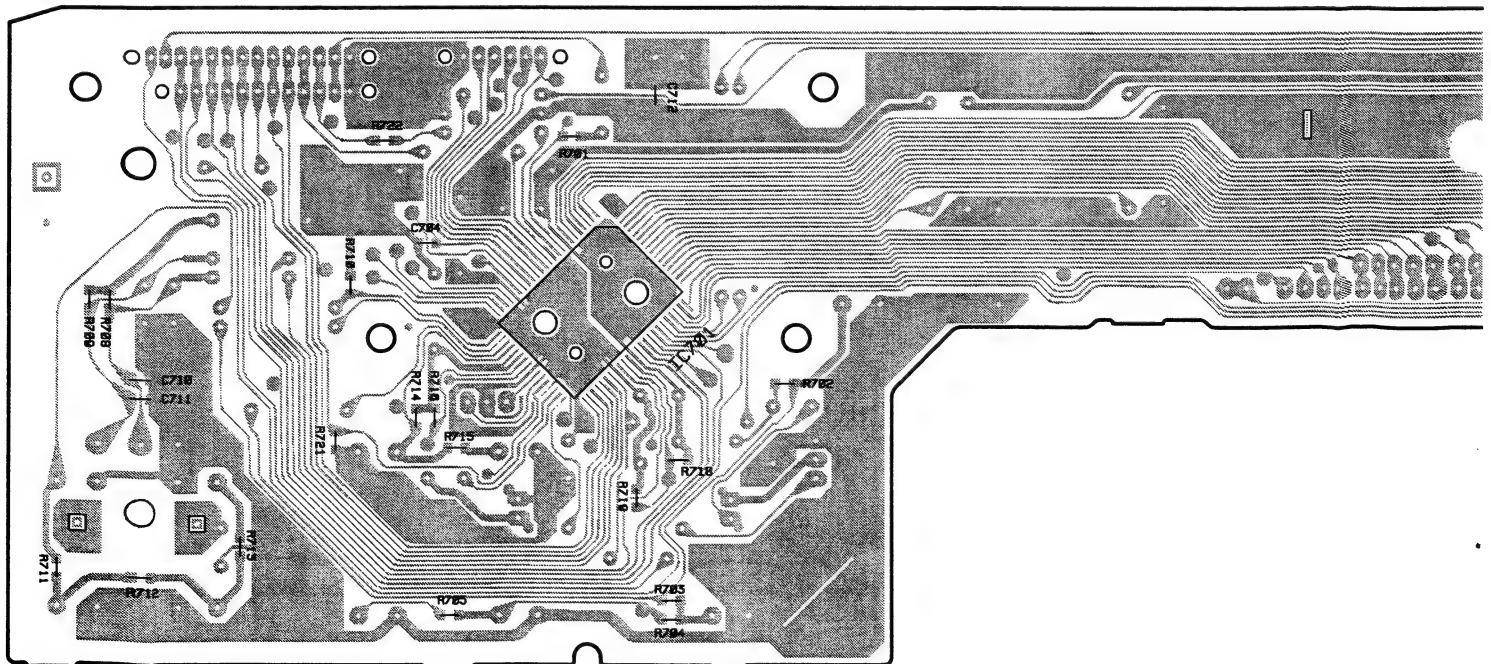


IC702

(PNP1449-B)

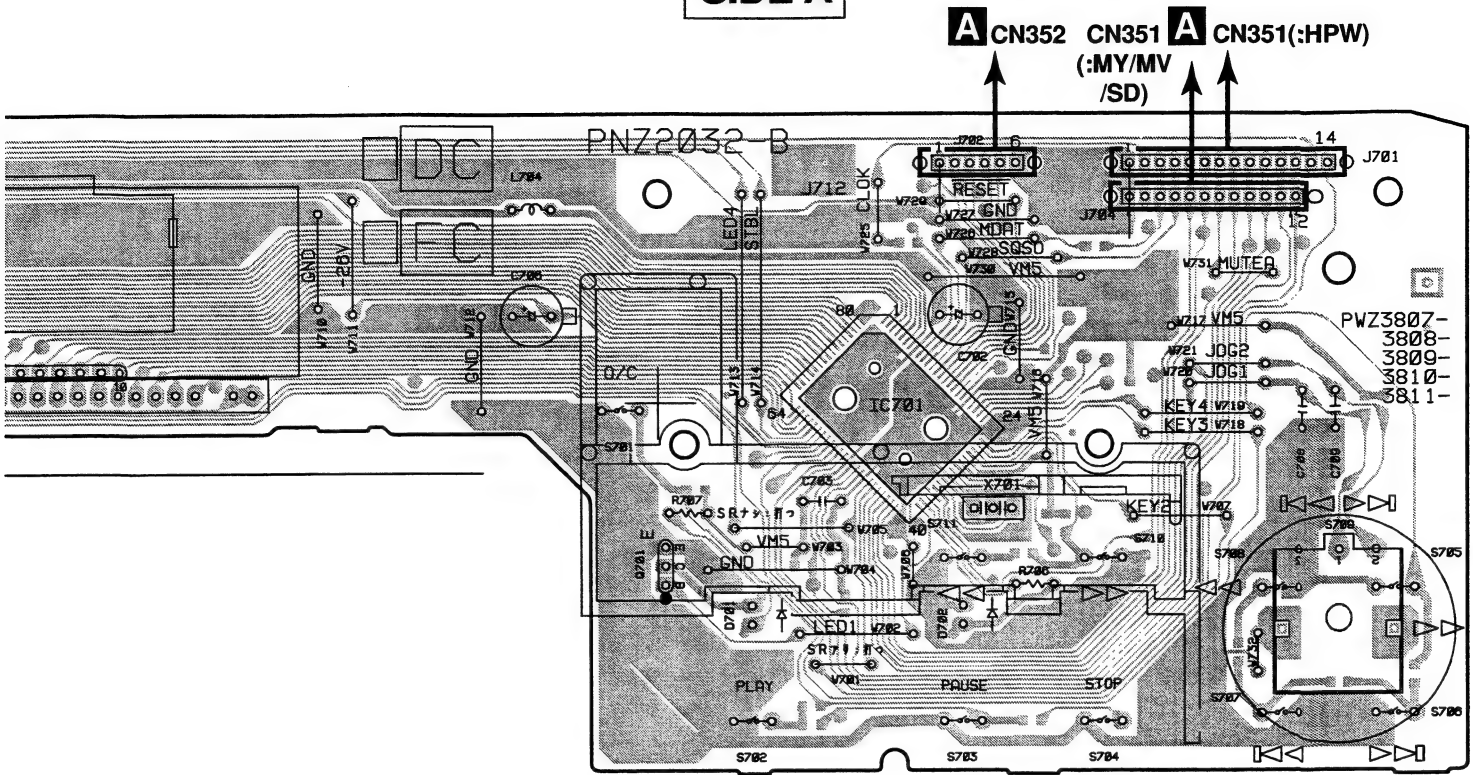
**SIDE B**

**C** DISPLAY BOARD ASSY



IC701

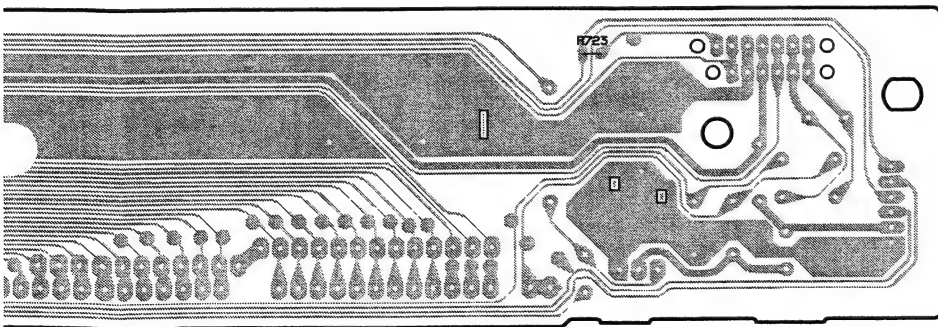
## SIDE A



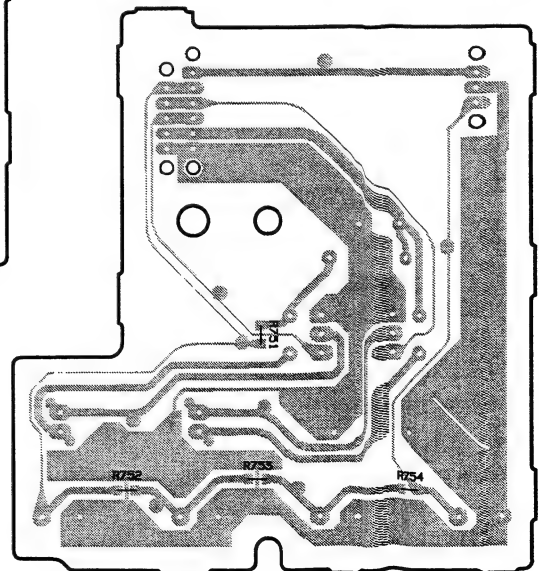
Q701

(PNP1449-B)

## SIDE B



## D FUNCTION BOARD ASSY



P NPN1449-B)

## 5. PCB PARTS LIST

NOTES : ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by  $J = 5\%$ , and  $K = 10\%$ ).

560  $\Omega \rightarrow 56 \times 10^1 \rightarrow 561$  ..... RD1/4PU  $\begin{bmatrix} 5 & 6 & 1 \end{bmatrix} J$

47k  $\Omega \rightarrow 47 \times 10^3 \rightarrow 473$  ..... RD1/4PU  $\begin{bmatrix} 4 & 7 & 3 \end{bmatrix} J$

0.5  $\Omega \rightarrow R50$  ..... RN2H  $\begin{bmatrix} R & 5 & 0 \end{bmatrix} K$

1  $\Omega \rightarrow 1R0$  ..... RS1P  $\begin{bmatrix} 1 & R & 0 \end{bmatrix} K$

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k  $\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$  ..... RN1/4PC  $\begin{bmatrix} 5 & 6 & 2 & 1 \end{bmatrix} F$

### ■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.				Remarks
		MY	MV	SD	HPW	
NSP	MOTHER BOARD ASSY	PWM2245	PWM2246	PWM2247	PWM2248	* 1
	└ MAIN BOARD ASSY	PWZ3793	PWZ3794	PWZ3795	PWZ3796	
	└ POWER BOARD ASSY	PWZ3800	PWZ3801	PWZ3802	PWZ3803	
	└ DISPLAY BOARD ASSY	PWZ3807	PWZ3807	PWZ3807	PWZ3808	
NSP	└ FUNCTION BOARD ASSY	PWZ3812	PWZ3812	PWZ3812	PWZ3812	* 2
NSP	└ PHONE BOARD ASSY	PWZ3815	PWZ3815	PWZ3816	PWZ3816	
NSP	└ PRIMARY SWITCH ASSY	PWZ3869	PWZ3869	PWZ3870	PWZ3869	
NSP	MECHANISM ASSY TT96	PXA1611	PXA1611	PXA1611	PXA1611	
NSP	└ SERVO MECHA BOARD ASSY T96	PXA1606	PXA1606	PXA1606	PXA1606	
	└ MECHANISM BOARD ASSY	PWX1192	PWX1192	PWX1192	PWX1192	

\* 1 Although PWZ3800 and PWZ3801 are different in part number, they consist of the same components.

\* 2 Although PWZ3815 and PWZ3816 are different in part number, they consist of the same components.

### ■ CONTRAST OF PCB ASSEMBLIES

#### POWER BOARD Assy

PWZ3800, PWZ3802 and PWZ3803 are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		PWZ3800	PWZ3802	PWZ3803	
	C18, C19	CEGA4R7RM50	CEBA2R2M50	CEBA2R2M50	
	C421 (1000 $\mu$ F / 16V)	PCH1122	Not used	Not used	
	C422 (220 $\mu$ F / 25V)	PCH1128	Not used	Not used	
	R11	RDR1/2PM8R2J	RD1/4PU8R2J	RD1/4PU8R2J	
	J30 JUMPER	PDF1177	Not used	Not used	
NSP	J06 JUMPER	Not used	PDF1099	Not used	
NSP	J07 JUMPER	Not used	PDF1100	Not used	
NSP	J08 JUMPER	Not used	PDF1101	Not used	
NSP	J09 JUMPER	Not used	PDF1102	Not used	

#### DISPLAY BOARD Assy

PWZ3807 and PWZ3808 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		PWZ3807	PWZ3808	
	J701 JUMPER	Not used	D20PDY1425G	
	J704 JUMPER	D20PDY1225G	Not used	
	Cable holder	51048-1200	Not used	
NSP	Cable holder	Not used	51048-1400	

**MAIN BOARD Assy**

PWZ3793, PWZ3794, PWZ3795 and PWZ3796 are constructed the same except for the following:

Mark	Symbol and Description	Part No.				Remarks
		PWZ3793	PWZ3794	PWZ3795	PWZ3796	
	IC331	Not used	TC74HC00AF	Not used	Not used	
	Q323	DTC124EK	Not used	DTC124EK	DTC124EK	
	D391, D394	Not used	Not used	Not used	1SS254	
	D392	Not used	Not used	Not used	DAP202K	
	L332	Not used	LFA151J	Not used	Not used	
	L334	Not used	PTL1003	Not used	Not used	
	L335	Not used	PTL1017	Not used	Not used	
	L391, L392	Not used	Not used	Not used	LAU1R0J	
	C323	CKSQYB103K50	Not used	CKSQYB103K50	CKSQYB103K50	
	C330	Not used	CKSQYB103K50	Not used	Not used	
	C331, C339	Not used	CKSQYB473K50	Not used	Not used	
	C169	CEGA4R7M50	CEGA4R7M50	PCH1127	PCH1127	
	C175, C303, C406, C413, C414	PCH1128	PCH1128	Not used	Not used	
	C301	CEGA470M25	CEGA470M25	Not used	Not used	
	C302	CFTLA394J50	CFTLA394J50	Not used	Not used	
	C332	Not used	CCSQCH101J50	Not used	Not used	
	C333	Not used	PCH1128	Not used	Not used	
	C334, C336	Not used	CKSQYB104K25	Not used	Not used	
	C335	Not used	CEAT470M50	Not used	Not used	
	C337	Not used	CCSQCH470J50	Not used	Not used	
	C341	PCH1122	PCH1122	PCH1128	PCH1128	
	C393	Not used	Not used	Not used	CCSQCH101J50	
	R320	RS1/10S0R0J	Not used	RS1/10S0R0J	RS1/10S0R0J	
	R322, R334	Not used	RS1/10S102J	Not used	Not used	
	R333	Not used	RS1/10S750J	Not used	Not used	
	R339	Not used	RS1/10S331J	Not used	Not used	
	R391	Not used	Not used	Not used	RS1/10S244J	
	R392	Not used	Not used	Not used	RS1/10S102J	
	JA331	Not used	PKB1028	Not used	Not used	
	JA391, JA392	Not used	Not used	Not used	RKN1004	
	CN351	52147-1210	52147-1210	52147-1210	52147-1410	
	KN105	Not used	Not used	Not used	VNF1084	

**PRIMARY SWITCH Assy**

PWZ3869 and PWZ3870 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		PWZ3869	PWZ3870	
	J02	PDF1178	PDF1181	

# PD-S707

## ■ PARTS LIST FOR PD-S707/MY

Mark	No.	Description	Parts No.
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### MOTHER BOARD ASSY

#### OTHERS

PC Board (MOTHER)	PNP1449
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### **A** MAIN BOARD ASSY

#### SEMICONDUCTORS

IC151	CXA1782CQ
IC301	CXD2507AQ
△ IC232	ICP-N10
△ IC201	LA6517
△ IC202	LA6520
IC302	NJM4565M
△ IC311, IC421	NJM7805FA
IC341	PD0236AD
IC401	PE8001A
IC303	TC74AC00F
Q151	2SA854S
Q391	2SC1740S
Q152, Q452	DTA124EK
Q323, Q451	DTC124EK
D397	1SS254
D326	DA204K
D395	DAP202K
D218	UDZS6.8B

#### COILS AND FILTERS

L395, L396 (AXIAL INDUCTOR)	LAU1R0J
L312 (Noise filter)	RTF1167

#### CAPACITORS

C181	CCSQCH100D50
C313	CCSQCH120J50
C314	CCSQCH220J50
C405	CEGA101M50
C301, C312, C427, C428	CEGA470M25
C169, C415, C416	CEGA4R7M50
C302	CFTLA394J50
C133, C309	CFTLA474J50
C163, C462	CKSQYB102K50
C156, C159, C161, C164, C168	CKSQYB103K50
C191, C192, C205, C210, C215	CKSQYB103K50
C219, C308, C317, C323, C344	CKSQYB103K50
C351, C399	CKSQYB103K50
C153- C155, C158, C193, C304	CKSQYB104K25
C319, C321, C342, C408, C409	CKSQYB104K25
C411, C412, C461	CKSQYB104K25
C176, C218, C306	CKSQYB152K50
C221, C222	CKSQYB182K50
C315	CKSQYB221K50
C162	CKSQYB332K50
C160	CKSQYB333K50
C167	CKSQYB472K50
C152, C307	CKSQYB473K50
C151	CKSQYB682K50
C157	CKSQYB823K25
C311, C341, C407, C79 (1000μF/16V)	PCH1122
C171 (100μF/50V)	PCH1126
C170 (4.7μF/50V)	PCH1127
C131, C175, C211, C212 (220μF/25V)	PCH1128
C216, C217, C303, C322, C406	PCH1128

Mark	No.	Description	Parts No.
------	-----	-------------	-----------

C413, C414 (220μF/25V)	PCH1128
------------------------	---------

#### RESISTORS

R427, R428	RD1/4PU273J
R163, R164	RD1/4PU470J
△ R420	RFA1/4PL8R2J
VR153, VR155 (10KΩ- B)	VCP1156
VR151, VR152, VR154 (22KΩ- B)	VCP1158
VR156 (220KΩ- B)	VCP1164
Other Resistors	RS1/10S□□□□

#### OTHERS

CN202	MT 4P CONNECTOR	173981-4
CN204	MT 5P CONNECTOR	173981-5
CN352	6P JUMPER CONNECTOR	52147-0610
CN11	10PJUMPER CONNECTOR	52147-1010
CN351	12PJUMPER CONNECTOR	52147-1210
JA321	OPTICAL LINK OUT	GP1F32T
CN403	SOCKET 4P	KM250NA4L
JA393	JACK	PKN1005
X301	XTAL RES (16.9344 MHz)	PSS1008
CN201	CONNECTOR 6P	RKP-533
CN131	CONNECTOR	SLW16S-1C7
	PCB BINDER	VEF1040
KN106, KN107	EARTH METAL FITTING	VNF1084

### **B** POWER BOARD ASSY

#### SEMICONDUCTORS

△ IC31	ICP-N10
IC405	NJM4558DX
△ IC21	PQ05RR12
Q403, Q404	2SC3068
Q405	DTC124EK
D496- D498	1SS254
△ D54	MTZJ18B
△ D11- D14, D21- D24, D52	S5688G

#### COILS AND FILTERS

L21, L30 (FERRITE BEADS)	PTH1014
L470 (FERRITE BEADS)	PTH1016

#### CAPACITORS

C62	CEAT2R2M50
C433, C434	CEGA101M50
C18, C19	CEGA4R7M50
C53	CFTLA334J50
C11, C13- C17	CKSQYB103K50
C28	CKSQYB104K25
C441, C442	CQMB102J50
C497, C498	CQMB103J50
C429, C430, C435- C438	CQMB152J50
C25, C26 (4700 μF/16V)	PCH1119
C27, C421, C431, C432 (1000 μF/16V)	PCH1122
C31, C32 (3300 μF/25V)	PCH1125
C52 (100 μF/50V)	PCH1126
C422 (220 μF/25V)	PCH1128



Mark	No.	Description	Parts No.
<b>RESISTORS</b>			
	R39, R40		RDR1/2PM101J
	R496, R499		RDR1/2PM302J
	R447, R448		RDR1/2PM471J
	R11		RDR1/2PM8R2J
⚠	R20		RFA1/4PL8R2J
	R21		RS1/10S103J
	Other Resistors		RD1/4PU□□□J

**OTHERS**

CN30	4P JUMPER CONNECTOR	52147-0410
CN22	6P JUMPER CONNECTOR	52147-0610
CN401	2P PIN JACK	AKB7032
CN402	4P TOP POST	B4B-PH-K-S
J11	WIRE ASSY 10P	D20PDY1006G
CN404	PLUG 4P	KP250NA4L
J30	LEAD WIRE	PDF1177
KN102	EARTH METAL FITTING	VNF1084
	10P CABLE HOLDER	51048-1000

**C DISPLAY BOARD ASSY****SEMICONDUCTORS**

IC701	PD4999A
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**COILS AND FILTERS**

L702-L704	LFA1R0J
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**SWITCHES**

S709	ASX7008
S701-S704, S710, S711	VSG1009

**CAPACITORS**

C701	CEAL470M16
C702	CEAT221M16
C706	CFTLA274J50
C705	CFTLA334J50
C704	CKSQYB103K25
C710, C711	CKSQYB471K50
C712	CKSQYB473K50

**RESISTORS**

All Resistors	RS1/10S□□□J
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**OTHERS**

	6P CABLE HOLDER	51048-0600
	12P CABLE HOLDER	51048-1200
J702	WIRE ASSY 6P	D20PDY0620B
J703	WIRE ASSY 6P	D20PDY0640G
J704	WIRE ASSY 12P	D20PDY1225G
	REMOTE RECEIVER UNIT	GP1U27X
V701	FL INDICATOR TUBE	PEL1094
X701	CERAMIC RESONA(4.19 MHz)	VSS1028

**D FUNCTION BOARD ASSY****SEMICONDUCTORS**

Q751, Q752	DTC124ES
D752 LED (ORANGE)	SLP6118C51H
D751 LED (RED)	SLP9118C51H

Mark	No.	Description	Parts No.
<b>SWITCHES</b>			
	S751-S754		VSG1009

**RESISTORS**

R756	RD1/4PU181J
R755	RD1/4PU221J
Other Resistors	RS1/10S□□□J

**OTHERS**

	5P CABLE HOLDER	51048-0500
J751	5P JUMPER WIRE	D20PDY0510E

**E PHONE BOARD ASSY****SEMICONDUCTORS**

IC501	M5218P
Q501, Q502	2SD2144S

**COILS AND FILTERS**

L501- L503	(AXIAL INDUCTOR)	LAU1R0J
L504	(Noise filter)	RTF1167

**CAPACITORS**

C515, C516	CEJA101M16
C507, C508	CKSQYB103K50
C510	CKSQYB473K50

**RESISTORS**

R511, R512	RD1/4PU121J
VR501 (20 kΩ-B)	RCV1043
Other Resistors	RS1/10S□□□J

**OTHERS**

	4P CABLE HOLDER	51048-0400
CN501	4P TOP POST	B4B-PH-K-S
J501	4P JUMPER WIRE	D20PDY0435G
JA501	JACK	RKN1002

**G MECHANISM BOARD ASSY****SWITCHES**

S610	DSC1016
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**OTHERS**

CN610	MT CONNECTOR 4P	173979-4
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**F PRIMARY SWITCH ASSY****CAPACITOR**

⚠ C1	CKA (10000pF / AC250V)	ACG7020
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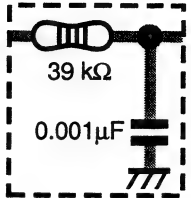


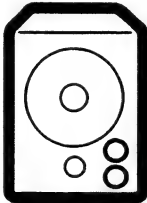
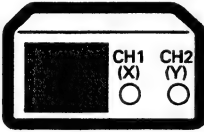
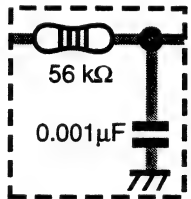
**OTHERS**

J1	LEAD WIRE	PDF1177
J2	LEAD WIRE	PDF1178
⚠	CAPACITOR COVER	REC-150
⚠	TERMINAL	RKC-061
⚠ S1	PRIMARY SWITCH	RSA1001

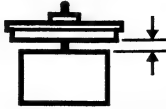
6. ADJUSTMENT

6.1 PREPARATIONS

6.1.1 Jigs and Measuring Instruments

 CD TEST DISC (YEDS-7)	 - screwdriver (small)	 + screwdriver (medium)	 + screwdriver (large)	 Low pass filter ① (39 kΩ + 0.001 μF)
 - Precise screwdriver	 Ball point hexagon wrench (size: 1.5mm) GGK1002	 Low-frequency oscillator	 Dual-trace oscilloscope (10 : 1 probe)	 Low pass filter ② (56 kΩ + 0.001 μF)

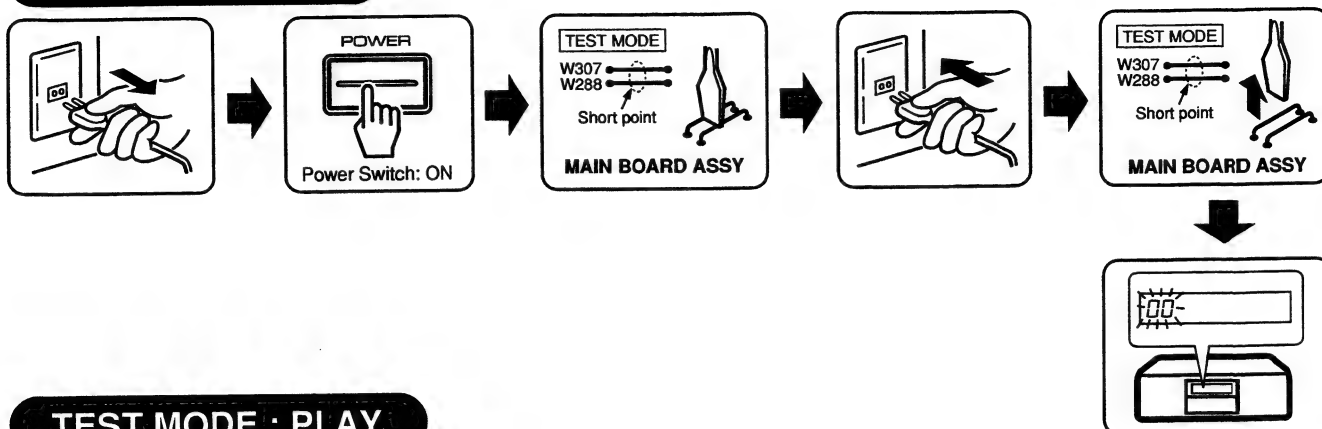
6.1.2 Necessary Adjustment Points

When	Adjustment points
Exchange PICKUP	1.2.3.4.5.6.7. 8.9.10.11.12 → Page 32 - 37
Exchange MAIN BOARD ASSY	1.3.5.6.7.8. 9.10.11.12 → Page 32 - 37
Exchange SERVO MECH ASSY	1.2.3.4.5.6.7. 8.9.10.11.12 → Page 32 - 37
Exchange SPINDLE MOTOR	 ADJ → Page 9

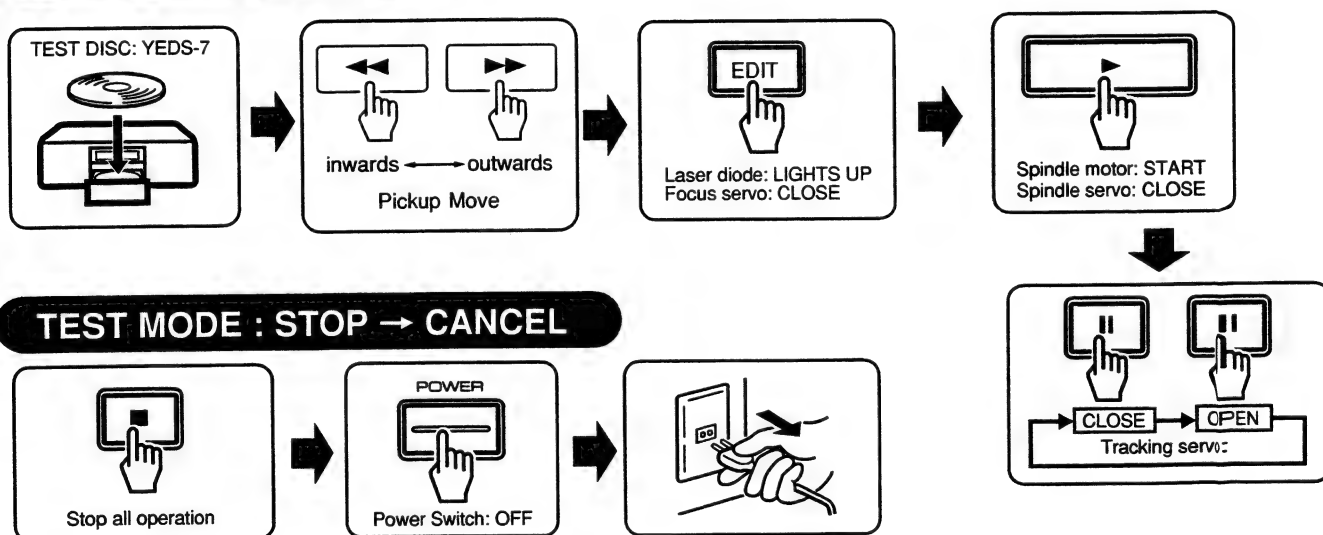
## 6.2 ADJUSTMENT

### 6.2.1 How to Start/Cancel Test Mode

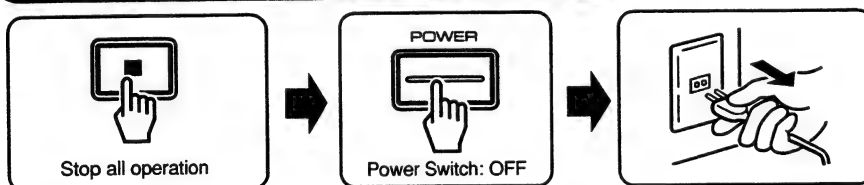
#### TEST MODE : ON



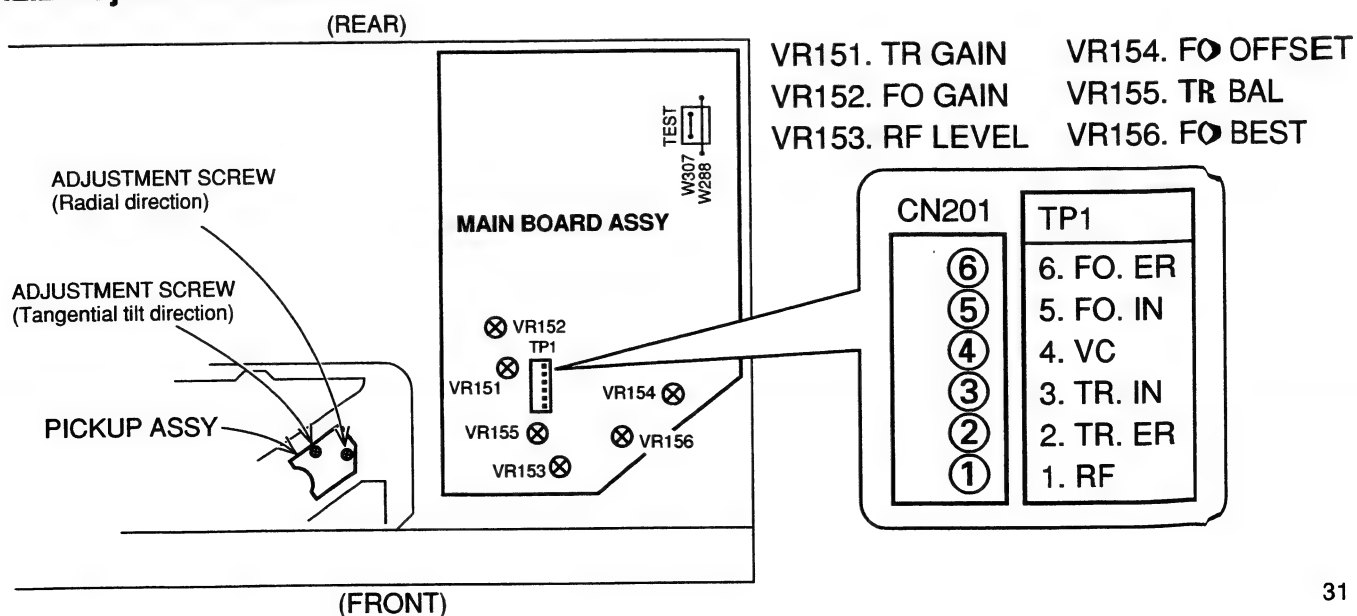
#### TEST MODE : PLAY



#### TEST MODE : STOP → CANCEL

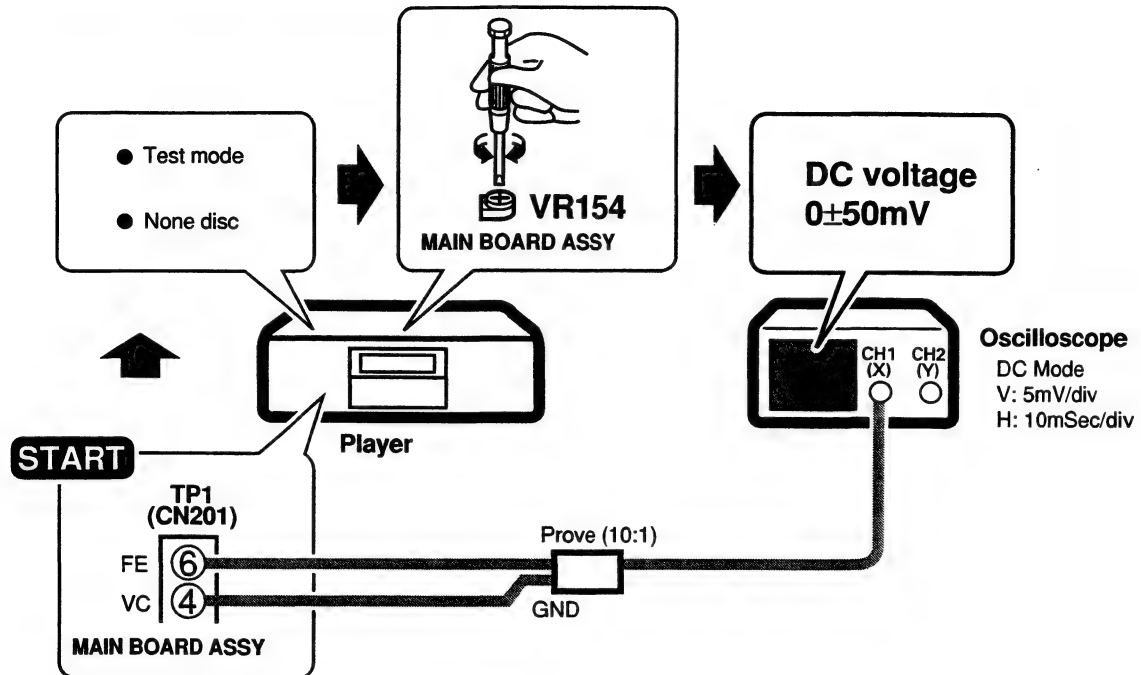


### 6.2.2 Adjustment Location

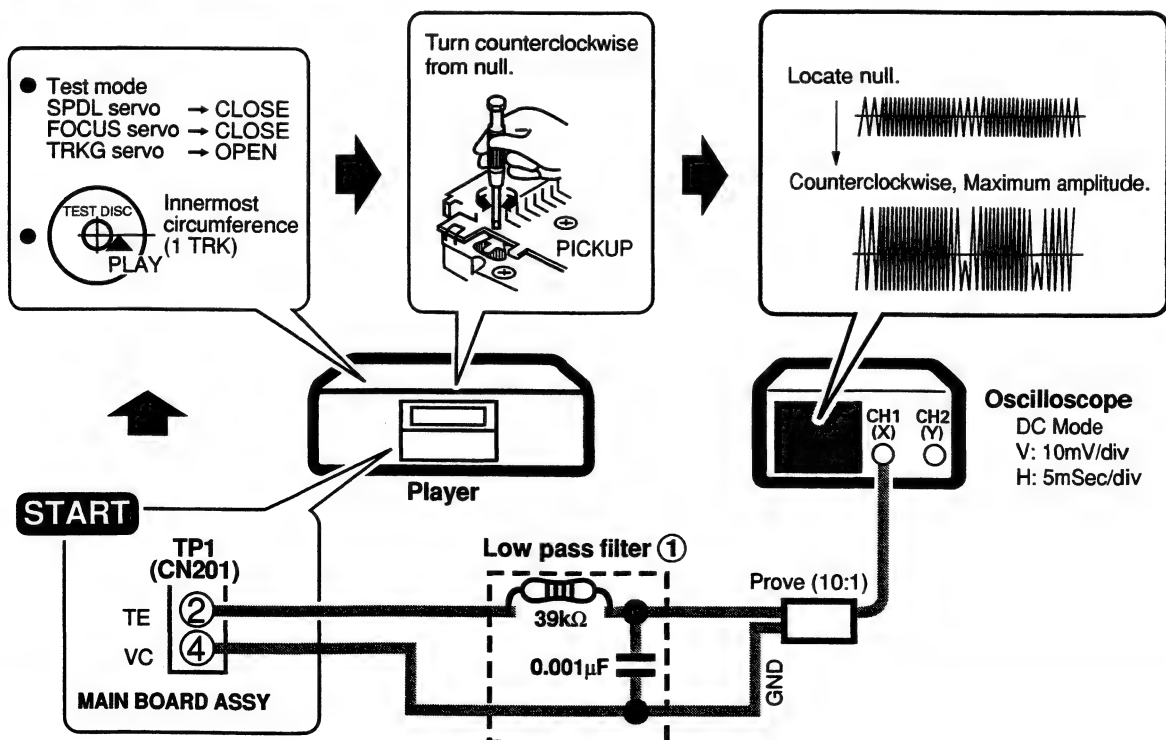


## 6.2.3 Check and Adjustment

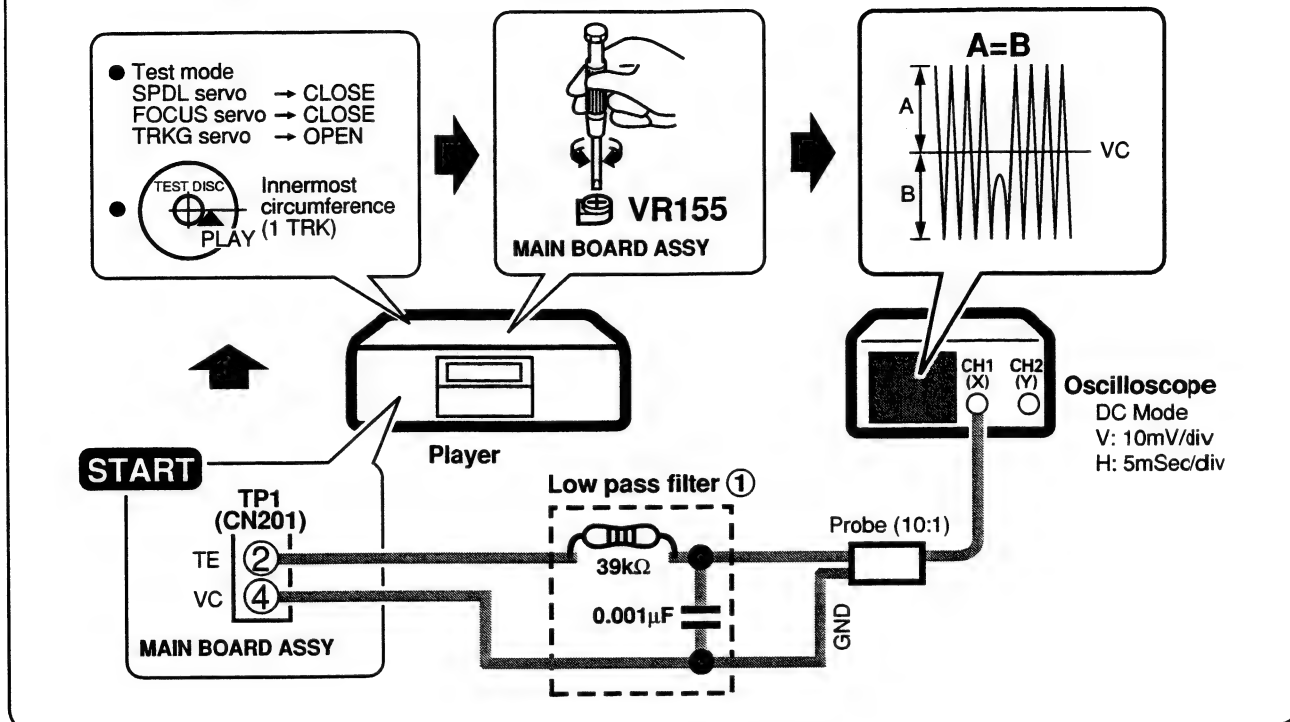
### 1. Focus Offset Adjustment



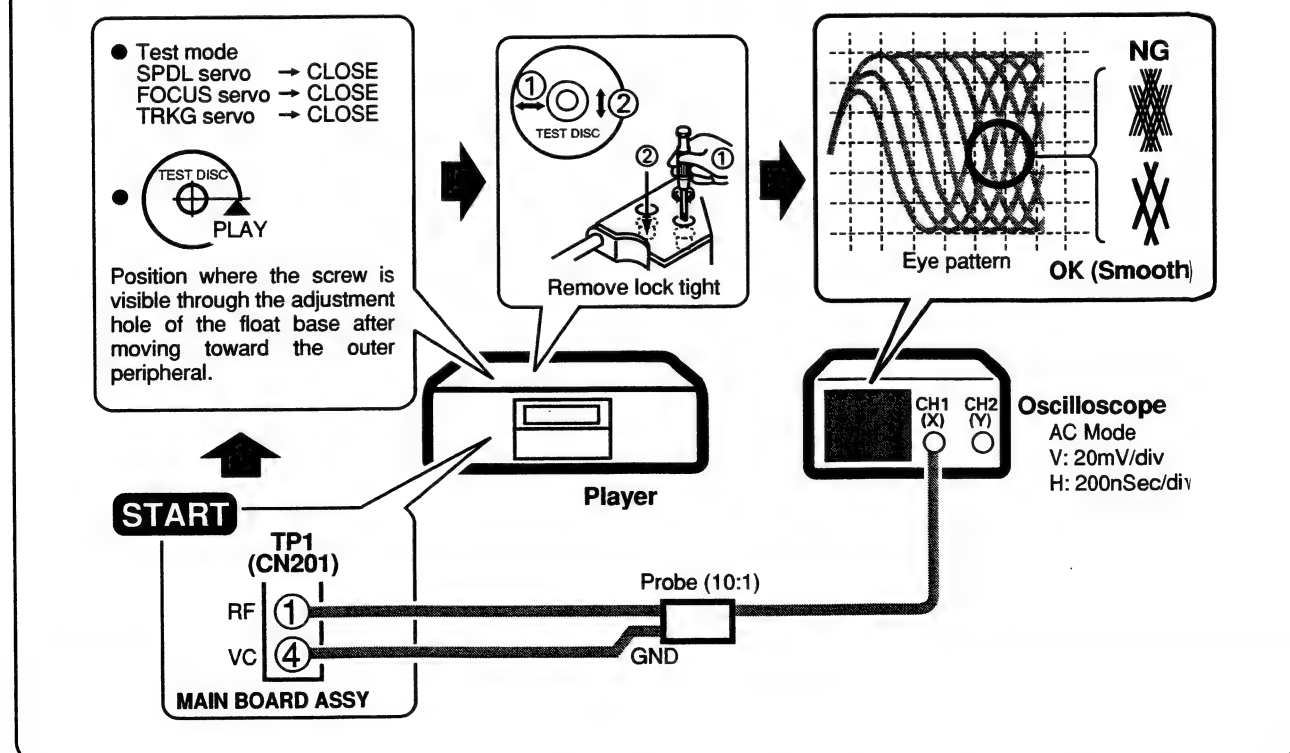
### 2. Grating Adjustment



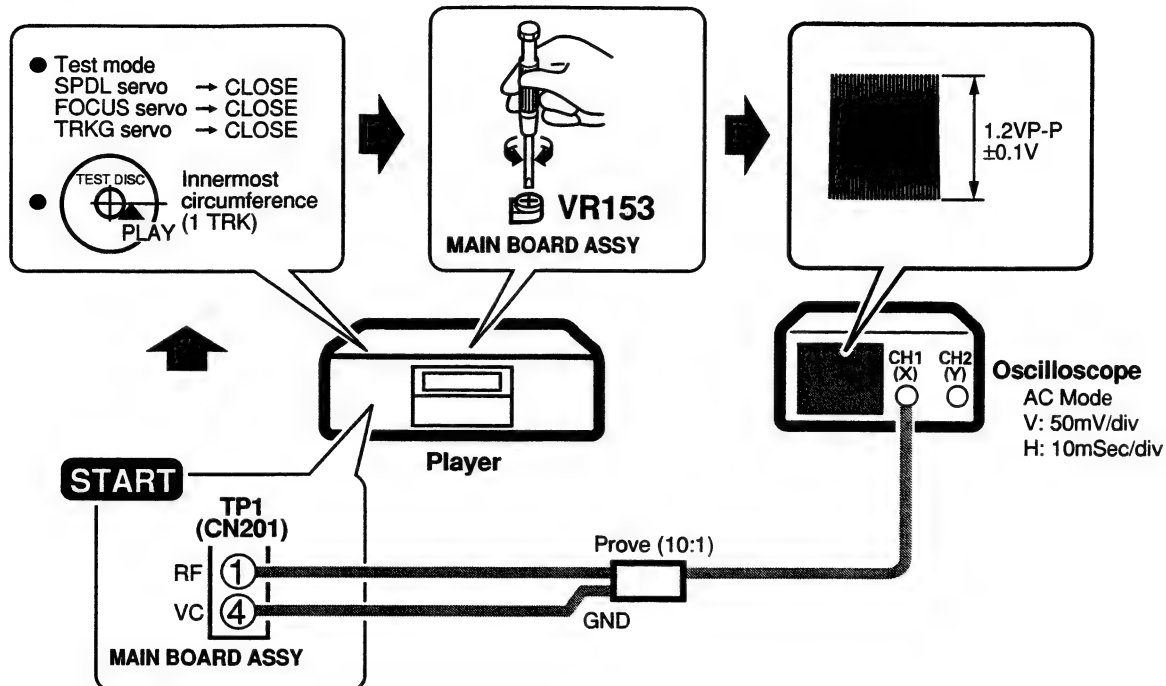
### 3. Tracking Error Barance Adjustment



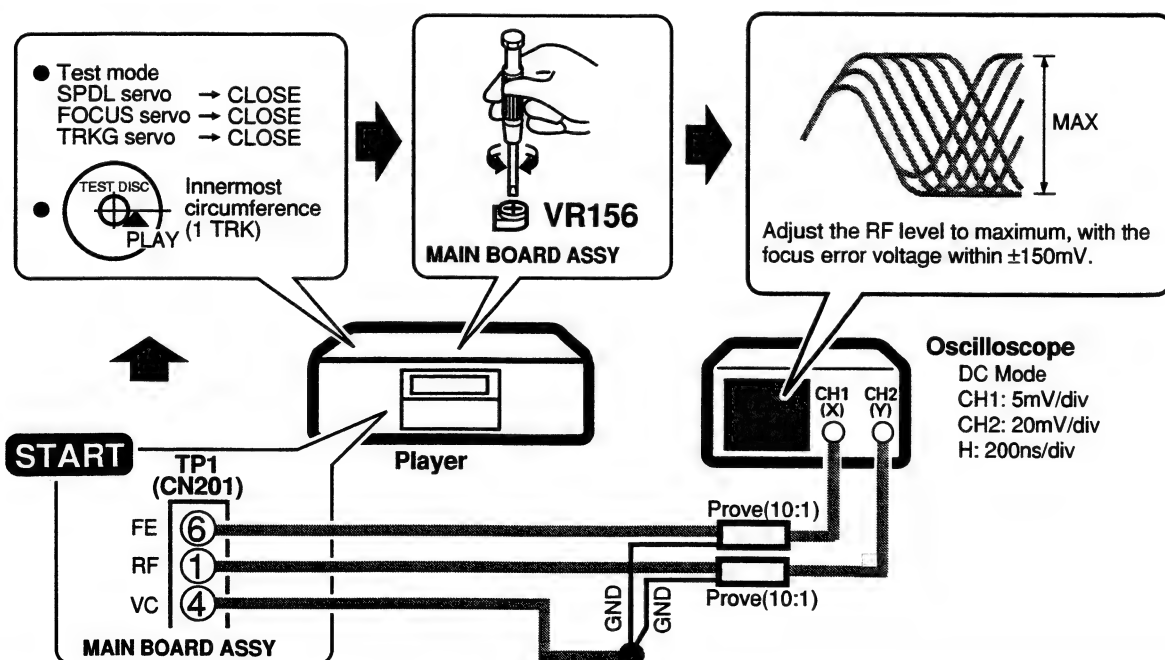
### 4. Pickup ①Radial/ ②Tangential Direction Tilt Adjustment



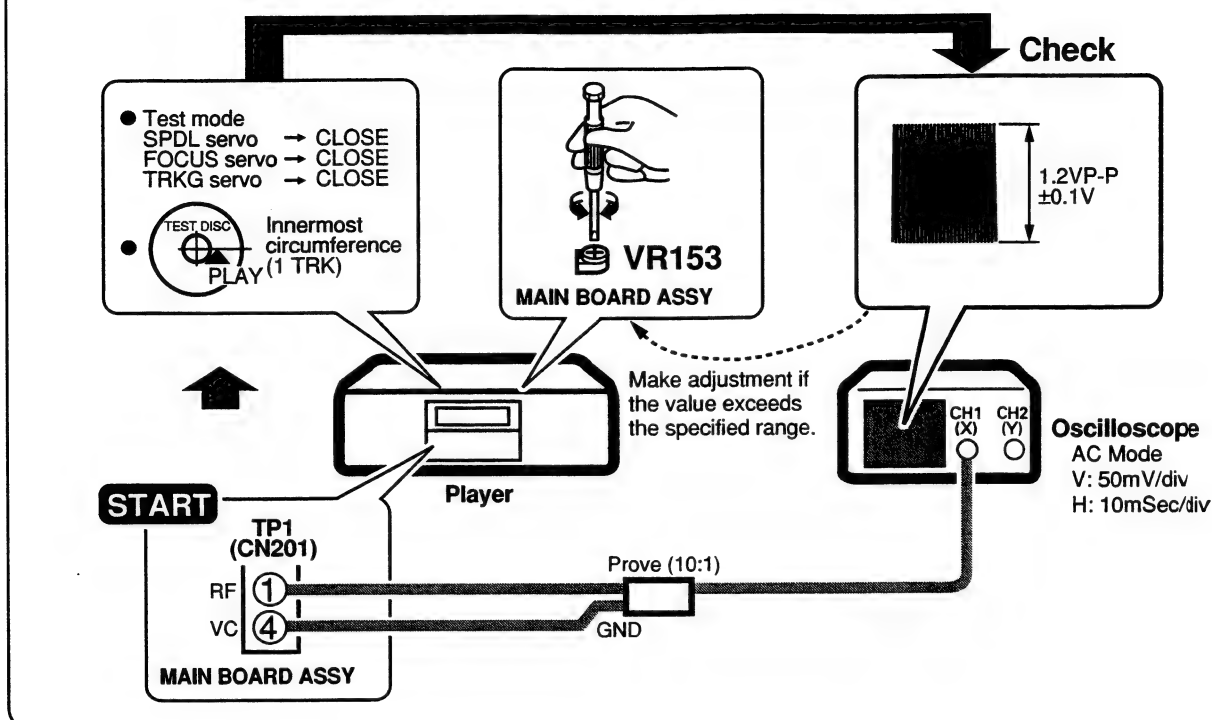
## 5. RF Level Adjustment I



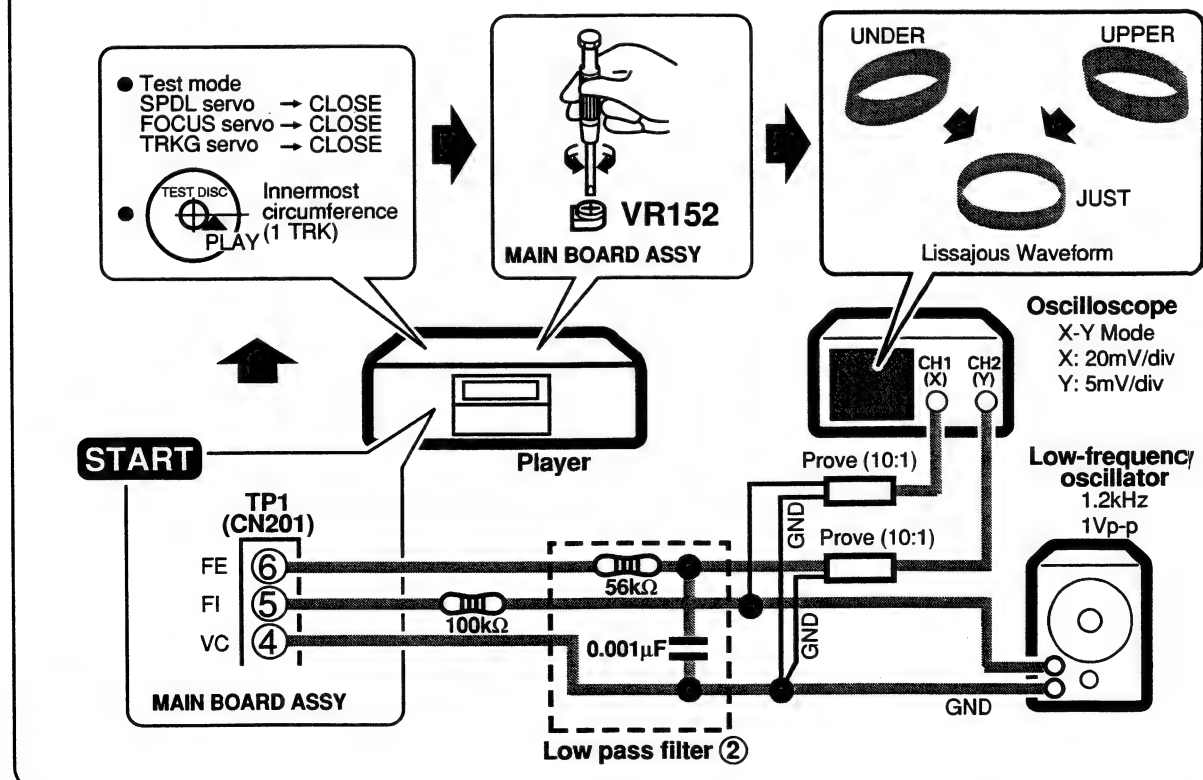
## 6. Focus Best Adjustment I



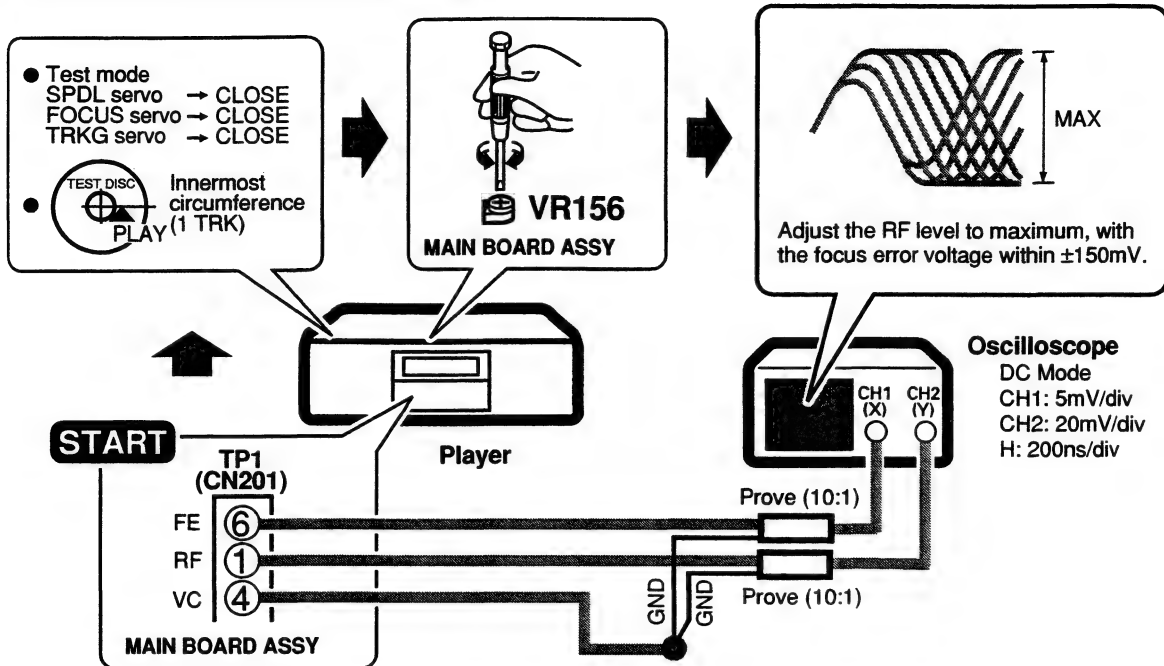
## 7. RF Level Adjustment II



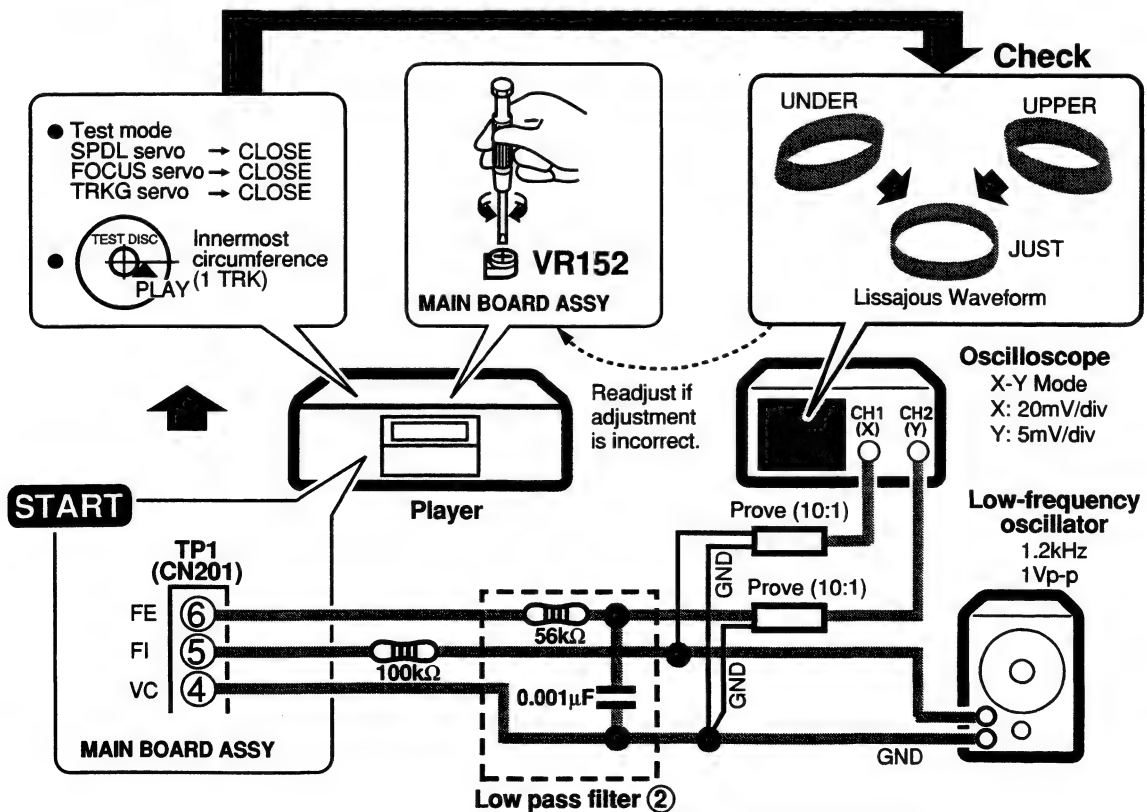
## 8. Focus Servo Loop Gain Adjustment I



## 9. Focus Best Adjustment II



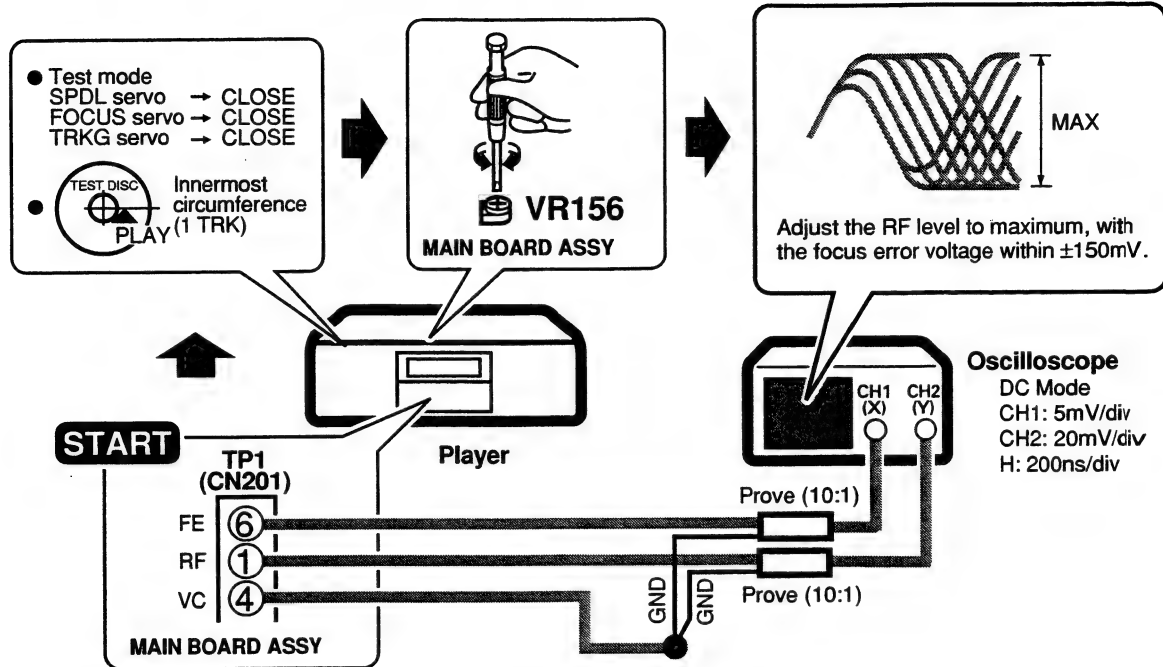
## 10. Focus Servo Loop Gain Adjustment II



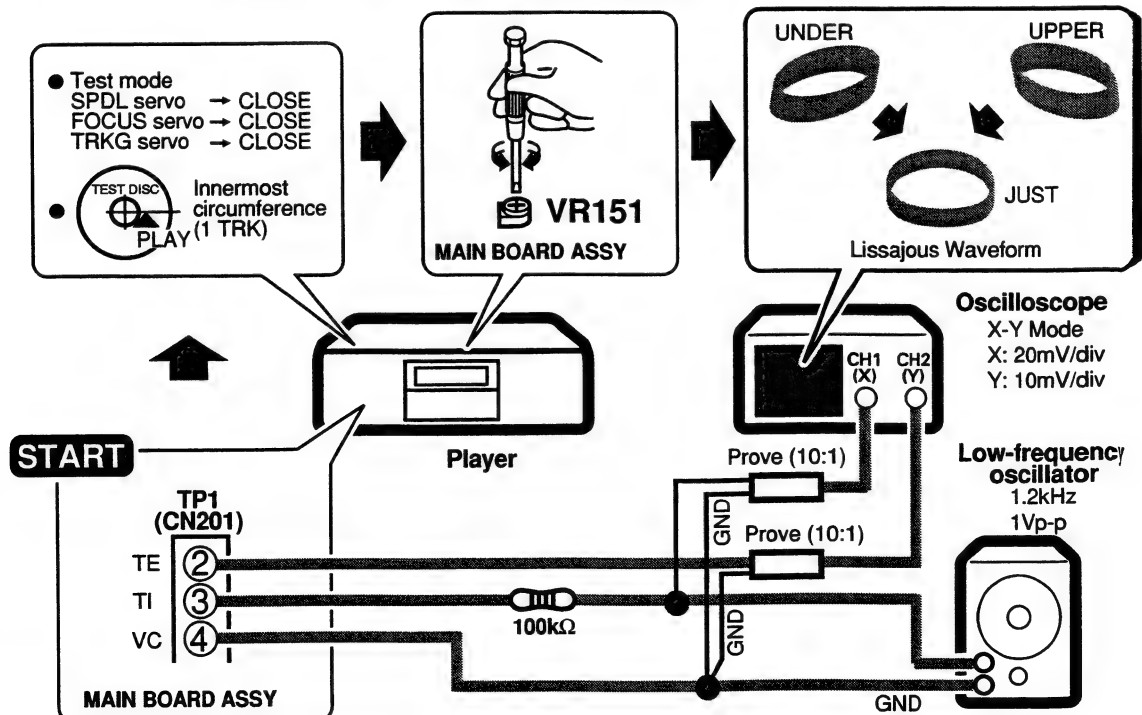


## 11. Focus Best Adjustment III

Adjust this point only if adjustment was made in item 10.



## 12. Tracking Servo Loop Gain Adjustment



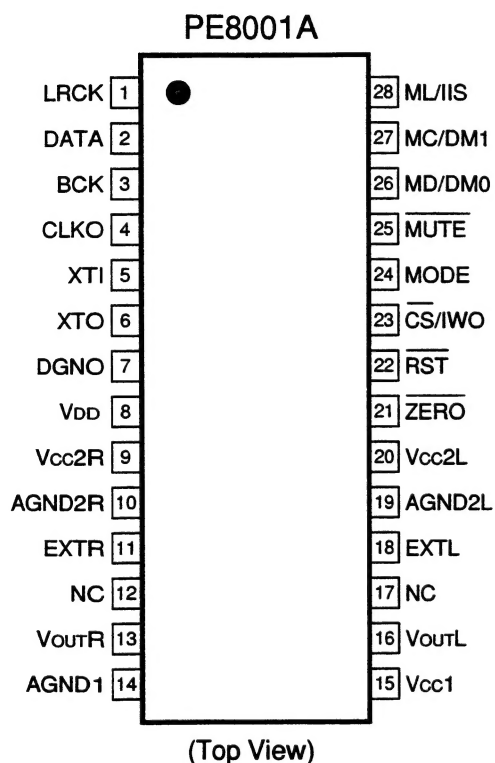
## 7. GENERAL INFORMATION

### 7.1 IC

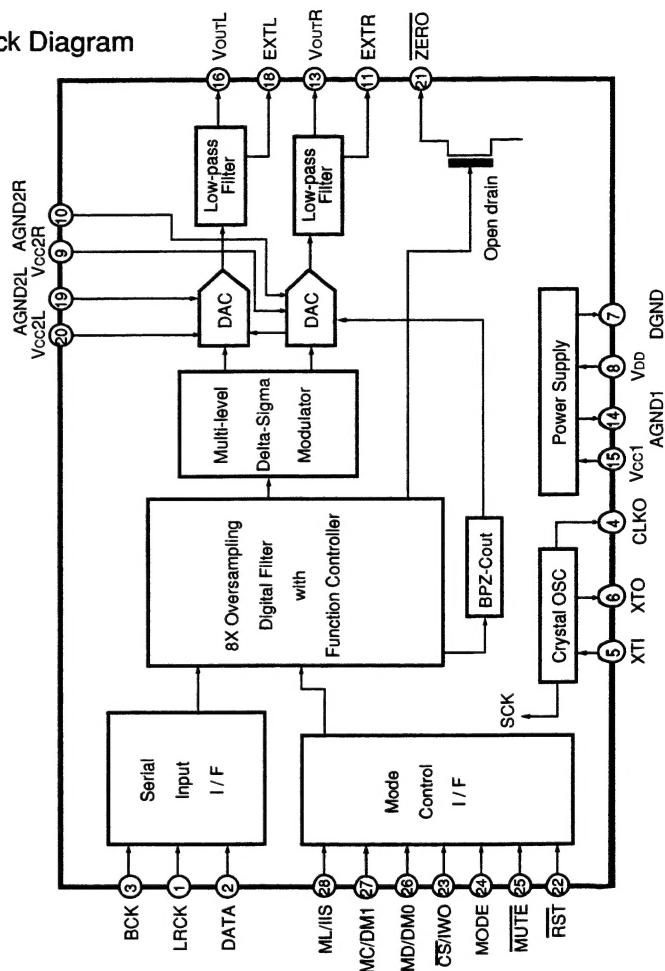
#### ■ PE8001A (IC401: MAIN BOARD ASSY)

#### ■ D/A CONVERTER IC

##### ● Pin Arrangement



##### ● Block Diagram



##### ● Pin Function

No.	Name	I/O	Description
1	LRCK	I	LRCK Clock Input (fs)
2	DATA	I	Serial Audio Data Input
3	BCK	I	Data bit clock Input
4	CLKO	O	Buffer output of System clock.
5	XTI	I	Oscillator Input / External clock Input
6	XTO	O	Oscillator Output
7	DGND	-	Digital GND
8	VDD	-	+5V Digital Power Supply
9	Vcc2R	-	+5V Analog Power Supply
10	AGND2R	-	Analog GND
11	EXTR	O	Rch, Common Pin of Analog output Amp.
12	NC	-	Not connect
13	VOUTR	O	Rch, Analog Voltage output of Audio signal
14	AGND1	-	Analog GND

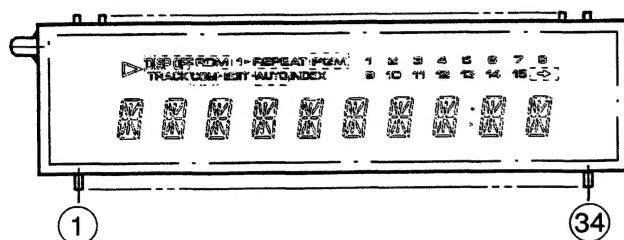
No.	Name	I/O	Description
15	Vcc1	-	+5V Analog Power Supply
16	VOUTL	O	Lch, Common Pin of Analog output Amp.
17	NC	-	Not connect
18	EXTL	O	Lch, Analog Voltage output of Audio signal
19	AGND2L	-	Analog GND
20	Vcc2L	-	+5V Analog Power Supply
21	ZERO	O	Zerodata. flag
22	RST	I	Reset. "L" at reset DF and modulator
23	CS/IWO	I	Chip select / Input format. select
24	MODE	I	Mode control select (H: Software, L: Hardware)
25	MUTE	I	Mute control
26	MD/DM0	I	Mode control data / De-emphasis selection
27	MC/DM1	I	Mode control BCK / De-emphasis selection
28	ML/IIS	I	Mode control WDEK / Input format selection

## 7.2 DISPLAY

### ■ PEL1094 (V701: DISPLAY BOARD ASSY)

#### ■ FL INDICATOR TUBE

##### ● Pin Assignment

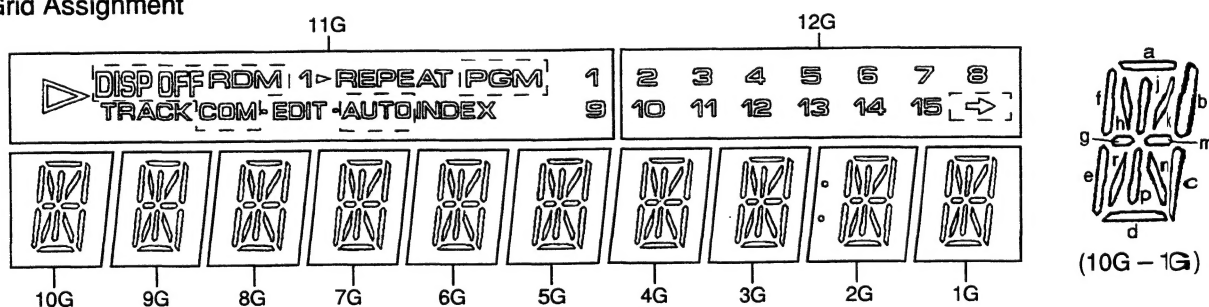


NOTE 1) F1, F2 -- Filament  
 2) NP ----- No pin  
 3) NX ----- No extend pin  
 4) DL ----- Datum Line  
 5) 1G~12G -- Grid

##### ● Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
CONNECTION	F	F	N	1	1	1	1	1	1	1	1	1	1	1	1	N	N	P	P	P	P	P	P	P	P	P	P	P	P	P	N	P	F	F
	1	1	P	G	G	G	G	G	G	G	G	G	G	G	G	X	X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

##### ● Grid Assignment



COLOR OF ILLUMINATION

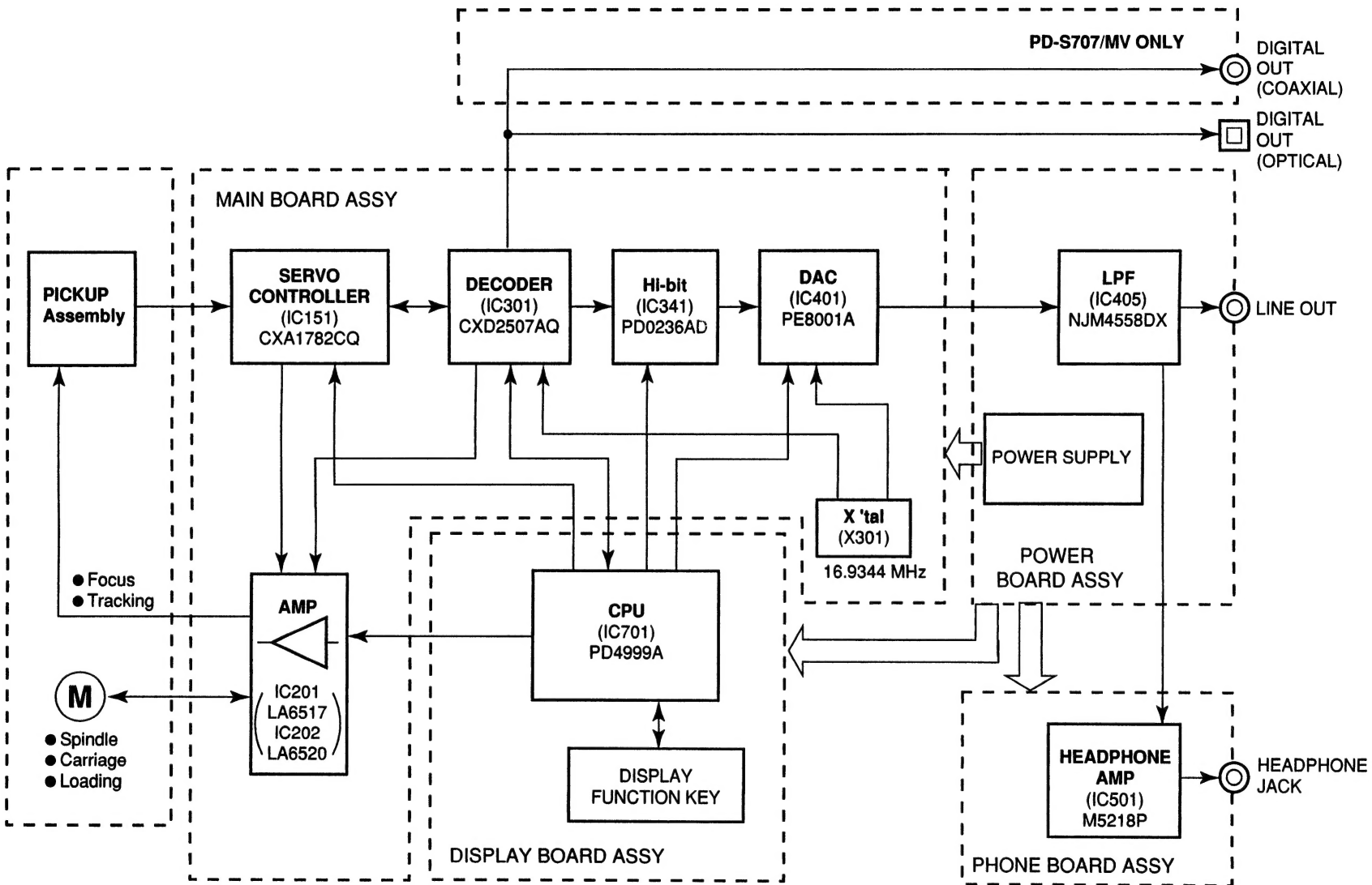
..... Orange  
 Other..... Green

##### ● Anode Connection

	12G	11G	10G-3G	2G	1G
P1	2	1	r	r	r
P2	3	9	h	h	h
P3	4	▷	a	a	a
P4	5	DISP OFF	b	b	b
P5	6	PGM	c	c	c
P6	7	REPEAT	d	d	d
P7	8	1▷	e	e	e

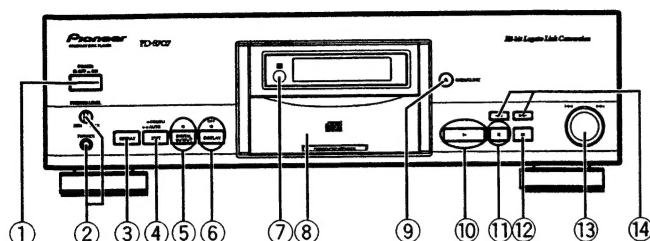
	12G	11G	10G-3G	2G	1G
P8	10	—	f	f	f
P9	11	PGM	g	g	g
P10	12	TRACK	m	m	m
P11	13	COM	j, p	j, p	j, p
P12	14	• EDIT •	—	col	—
P13	15	AUTO	k	k	k
P14	⇒	INDEX	n	n	n

# 7.3 BLOCK DIAGRAM



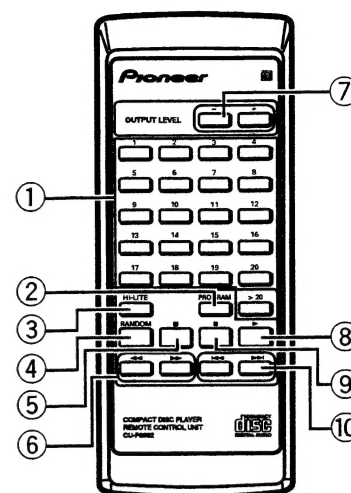
## 8. PANEL FACILITIES AND SPECIFICATIONS

### ■ PANEL FACILITIES



#### FRONT PANEL

- ① **POWER switch**
- ② **PHONES jack and PHONES LEVEL knob**
- ③ **REPEAT button**
- ④ **COMPU/AUTO EDIT button**  
(● COMPU / ●● AUTO)
- ⑤ **DIGITAL OUTPUT button and indicator**
- ⑥ **DISPLAY button and OFF indicator**
- ⑦ **Remote sensor**  
Receives the signal from the remote control unit.
- ⑧ **Disc tray**
- ⑨ **OPEN/CLOSE button (▲)**
- ⑩ **Play button (▶)**
- ⑪ **Pause button (⏸)**
- ⑫ **Stop button (■)**
- ⑬ **Track search knob (◀◀/▶▶)**
- ⑭ **Manual search buttons (◀◀/▶▶)**



#### REMOTE CONTROL UNIT

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.

- ① **Track number/Digit buttons (1-20, >20)**
- ② **PROGRAM button**
- ③ **HI-LITE button**
- ④ **RANDOM button**
- ⑤ **Stop button (■)**
- ⑥ **Manual search buttons (◀◀/▶▶)**
- ⑦ **OUTPUT LEVEL buttons (-/+)**
- ⑧ **Play button (▶)**
- ⑨ **Pause button (⏸)**
- ⑩ **Track search buttons (◀◀/▶▶)**

### ■ SPECIFICATIONS

#### 1. General

Type .....	Compact disc digital audio system
Power requirements	
U.K. and European models .....	AC 220 - 230 V, 50/60 Hz
Australian model .....	AC 230 - 240 V, 50/60 Hz
Multi-voltage model .....	AC 110 /120-127/220-230/240V (Switchable), 50/60Hz
Power consumption .....	14W
Operating temperature .....	+5°C - +35°C
Weight .....	7.2 kg
External dimensions .....	420 (W) x 374 (D) x 128 (H) mm

#### 2. Audio section

Frequency response .....	4 Hz - 20 kHz
S/N ratio .....	110 dB or more (EIAJ)
Dynamic range .....	96 dB or more (EIAJ)
Harmonic distortion .....	0.004% or less (EIAJ)
Output voltage .....	2.1 V
Wow and flutter .....	Limit of measurement (±0.001% W.PEAK) or less (EIAJ)
Channels .....	2-channel (stereo)

#### 3. Output/Input terminals

Audio line output jacks  
Optical digital output jack  
Coaxial digital output jack (U.K. model only)  
Phones output jack  
CD ● DECK SYNCHRO jack  
CONTROL IN/OUT jacks (Australian model only)

#### 4. Accessories

● Remote control unit .....	1
● AAA/R03 dry cell batteries .....	2
● Output cable .....	1
● Operating instructions .....	1
● Control cable (Australian model only) .....	1

#### NOTE:

Specifications and design subject to possible modification without notice, due to improvements.